

# SOAP

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## and SANITARY CHEMICALS

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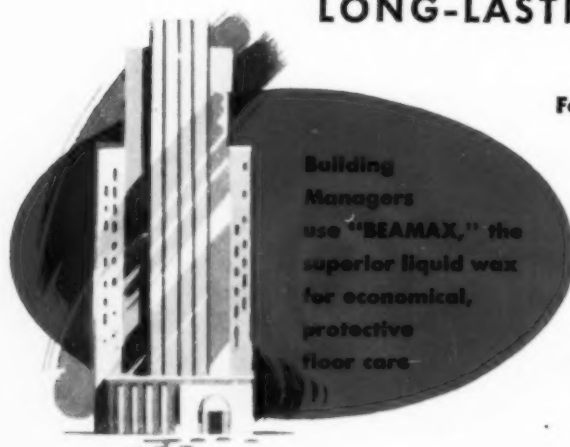
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## AS THE EDITOR SEES IT

**B**EFORE a U. S. Senate committee, the representative of a western meat packers association stated that producers of tallow, grease and lard "have suffered heavily from the sharp price drops of the past year." Following this, he asked for funds to conduct research to find new uses for animal and vegetable fats, that the Commodity Credit Corporation be given money to purchase 200,000,000 pounds of fats to strengthen the market, and that Congress put an "equalization fee" on imported fats and oils.

Always, it's the same old sardine in a new can. The market falls apart and screams for government help arise pronto. It could be cattle growers, renderers, sugar producers, ship builders, lumbermen, just plain farmers, or what not. But the words and music are invariably the same. Comes trouble, tough competition and a decline in prices, — and what happens to all the loud talk about "free enterprise," and "rugged individualism?" It's forgotten, while cries for help resound through the hallowed halls of Washington, D. C.

After five years of government in the fat and oil market up to the top of its hip boots, we are now rid of the restrictions. But, fat prices, — following also three years of juicy profit levels, — have been sub-normal for about three months. That, gentlemen, calls for government action to "equalize" things and put prices up. So, hold your hats, soapers, here we go again!

**T**ALLOW, grease, soap stocks and some other soap-kettle fats continued on the bargain counter for the greater part of April. Some extension of buying tended to firm up prices the early part of this month in the light of expressed views that any movement from that point on must be upward. In fact, there were those who felt that the oil and fat markets presented an underlying situation which conceivably could reverse the trend of the past several months with explosive violence.

That a number of fatty raw materials for soap manufacture have been too cheap for several months appears to be generally accepted. The over-all world oil and fat picture, although it has shown wide improvement in stocks during the past year, at no time since the war's end has warranted a five-cent tallow market, fifty per cent soap stock at one-and-a-half cents, or their equivalent in other products. Why buying was not heavier at these figures last month is still a puzzle. With memories of the oil and fat markets over the past thirty years in mind, we cannot help but feel that this has been the time to fill every last tank in the plant. How the average soaper could go wrong at these prices is difficult for us to understand. And not to take advantage of the obviously favorable market seems to be like slamming the door in the face of opportunity.

Some soapers whom we know have bought right up to the hilt. But there are others who for one reason or another have let their fat stocks run down. However, that's their business. As for us, we would prefer not to be short right now.

**S**HARP protests by manufacturers against product-approval lists set up by trade associations or others are still dogging our footsteps. The latest which has been called to our attention in rather strong language concerns once again the American Hotel Association. This time, it is not floor wax, but dishwashing compound and rug shampoo, products which concern many detergent and soap manufacturers. In the case of dishwashing compound, those who have expressed criticism of this idea of an association list of approved products are two outstanding manufacturers of national reputation. In each case, their experience in producing and supplying dishwashing compounds extends back for more than a quarter-century. Neither is on the approved list, and both flatly refuse to meet the conditions necessary to have their names listed.

While these dishwashing compound manufacturers present a strong and logical condemnation of the whole approval-list idea and this one list in particular, the critic of the rug shampoo list does not stand on as solid ground technically. His criticism is based on the fact that his soap cannot make the rug shampoo list because this latter is now confined to synthetic detergents. This, however, in our opinion does not lend any justification to this list or any like it. Whether criticism is weak or strong technically, the list idea is still unsound and unfair to both supplier and buyer.

Once again, we want to point out that those manufacturers who submit to this approval-list pressure, and pay the bill to have their products tested and placed on such a list, are plain suckers. They only encourage a continued extension of the idea, not only to additional products, but by other associations, companies, and "laboratories" who also are anxious to get in on the racket. The scheme is made to order for fraud. It does not and cannot protect the buyer. In fact, through a false sense of security, the buyer can more easily be misled and cheated. Why, in the name of heaven, AHA continues to have any part of this thing in any form whatever is beyond our ken.

**C**ASH discounts have taken another clip on the chin. With keen interest, we note that wholesale druggists, according to information compiled by one of the leading trade associations, are trimming cash discounts from two to one per cent, and "others are toying with the idea of cutting out the discount completely." This is indeed startling news, for when the wholesale drug industry,—literally a mystic maze of discounts of one sort or another and steeped in the tradition of discounts almost since the Revolution,—even thinks about eliminating cash discounts, the end cannot be too many years off.

Slowly, but surely, over the years, the cash discount is being indexed by business and industry for what it really is,—an outmoded financial relic of Civil War days. As a "business custom," it has hung on through the years although there is not a vestige of a real reason why it should continue. Frequently abused by those who will

always take advantage of an opportunity to chisel, it has led to innumerable and sometimes costly disputes. For insisting that a bill be discounted in ten days, and not eleven, many a good customer has been lost.

On occasion, we have asked cash discount advocates for one good sound reason for the continued existence of this custom. We have yet to receive what we consider a satisfactory answer. And we ask, if a firm sells one hundred dollars worth of goods, why should it accept ninety-eight dollars in payment? Why should the buyer have to be bribed with a one or two per cent lollypop to pay his just debts on time? So, once again, we herald this latest step toward the eventual demise of this long-since outmoded financial relic.

**D**URING the past few months, price declines have been comparatively numerous. These declines have applied to about everything from apples to zinc. With price reductions under suitable circumstances, we have no quarrel. But the wording which many manufacturers and other sellers use in announcing such reductions, — and particularly the reasons which they advance, — give us something akin to a slight pain in the neck.

With little variance, price reductions are accompanied by statements that because of "new manufacturing economies" or some such familiar mush, the supplier is enabled to reduce his price and literally is breaking his neck to pass this saving along to his dear old pal, the customer. The fact that such "manufacturing economies" were not apparent several months ago when competition was less keen is probably just a coincidence. That competition has become tougher and has been the main motivating force behind these price reductions is always scrupulously ignored.

No manufacturer has ever admitted to our knowledge that he has been keeping his prices up so that he can make a decent profit, — or that this is his chief reason for being in business, — or that he has reduced his price because his competitor, the SOB, has forced him to do so. Always, it is the interests of his dear, dear friend, the customer, which are nearest to his heart, if we would believe these price-cut preambles.

# Synthetic Detergents

## In the Fur Industry

By Paul I. Smith

London

**T**HE fur dressing industry is becoming an important user of synthetic detergents and there are a number of processes, such as wetting, scouring or cleansing, killing, dyeing, fat-liquoring and oiling, where these surface active agents are able to increase efficiency, improve quality and lower processing costs.

It is interesting to consider briefly why the furrier has become dissatisfied with soap and sulfonated oils both of them being previously used in fairly substantial quantities for some years. Soaps by reason of their chemical structure, i.e., presence of the carboxy group, show a high sensitivity to acids and heavy metal salts and tend to leave a dull film on the fur unless the softest water is used. The detergent efficiency of soap is also greatly influenced by temperature and for high detergency it is necessary to use hot solutions. In the dressing of furs it is not always possible to use liquors at the optimum temperature of soap. One further reason why soaps have not given entire satisfaction to the furrier is that in the presence of acids, soap emulsions are broken down and free fatty acids are formed which tend to

give furs a rancid and unpleasant smell. Although sulfonated oils and mixtures of sulfonated or "phosphorized" oils and soaps, etc., have better resistance to hard water and acids in solutions than soaps, they are deficient in detergent properties and are neither as good softeners nor lubricants as good soap. On the other hand the emulsifying properties of sulfonated oils are satisfactory and they form a good basis for softening solutions and fat-liquors in both the leather and the fur trades. Nowadays sulfonated oils are frequently used with modern synthetic anionic detergents.

Synthetic anionic surface active compounds offer the following advantages, many of them of great importance to the practical furrier.

1. They possess very good solubility when solutions of the surface active agents are cooled, thus enabling stock solutions to be kept without gelling or precipitation at a temperature of 40 deg. F. This is of great importance as it is desirable to carry out the preliminary processes of wetting and cleansing at low temperatures so as to prevent any loosening of the

fur due to accelerated bacterial action.

2. As the sulfate or sulfonate group of the synthetic anionic detergent is attached to the end of the carbon chain, in the place formerly occupied by the carboxy group of soap, full advantage can be taken of the long carbon chains present in modern sulfated fatty alcohols and alkyl aryl sulfonates. These agents possess a high stability to hard water and there is no deposition of insoluble calcium and magnesium soaps. The anionic detergents actually combine with the calcium and magnesium and the compounds formed are either soluble or form colloidal solutions which possess detergent properties. Unlike soap, the synthetic detergents do not form insoluble soaps with chromium salts.
3. Synthetic anionic detergents have the power of dispersing lime soaps and thus preventing them from being deposited on the fur.
4. There is retention of surface activity in the presence of acids, alkalies and common salt. One of the outstanding properties of the synthetic anionic detergent is that it can be used in aqueous solutions of low pH.
5. The synthetic anionic detergents possess excellent emulsifying properties and may be used with sulfonated or raw oils in the fat liquoring and oiling processes for most skins.

Synthetic detergents suitable for use in the fur trade should preferably be marketed in both paste and powder forms. Some furriers prefer the paste as it is usually much easier to dissolve in water than the powder. On the other hand, paste is more difficult to weigh or measure and it is inclined to be wasteful in use. Manufacturers of proprietary anionic compounds usually claim that two parts of the powder are equivalent to three parts of the paste.

Whereas a few years ago the surface active agents in use were mainly single compounds, today some preference is being shown towards the employment of mixtures or so-called



special formulations. For this reason it is difficult, if not altogether impossible to give any chemical formulae to several of the most successful synthetic detergents now on the market, indeed, the manufacturers themselves are by no means certain of their composition. Generally speaking, however, the alkyl aryl sulfonates are preferred to the sulfated fatty alcohols on account of their greater stability in the presence of acids and salts.

The fur processing requirements for synthetic detergents may be summarized as follows:—

#### Wetting

**W**HEN the raw skins arrive at the furrier's works they are usually either dry salted or wet salted, occasionally skins are in a flint-dry (sun dried) condition. As a preliminary to scouring or cleansing, all skins, no matter what condition they are in, must be thoroughly wetted. The ideal condition for a skin is that in which it left the animal's back.

The wetting process must be carried out as quickly and efficiently as possible, otherwise bacterial action may cause the fur "to slip" and thereby ruin the fur. It will be appreciated, therefore, that the furrier can take no risks and he must be absolutely sure that his wetting solution will act immediately.

The inclusion of a small percentage of synthetic detergent in the wetting liquor, which may contain Turkey Red Oil, has been found to be of considerable assistance in removing lipophilic bodies, thereby reducing the time required for softening. A suggested soaking solution for skins to be dressed as furs is made up of:—

1 lb. synthetic detergent (powder)  
1½ lb. Turkey Red Oil.  
100 gallons cold water.

It is most important that the temperature of the wetting liquor does not exceed 45 deg. F., otherwise there may be serious risk of bacterial and enzymatic action causing loosening of the fur.

#### Scouring or Cleansing

**I**N ORDER to remove all dirt and grease from the fur skins it is necessary to use warm detergent solutions (85-104 deg. F.) of high effi-

ciency so that the time taken for scouring is reduced to the minimum. It is, therefore, necessary to select for use a detergent that has a high solubility at the working temperature and exercises a powerful detergent action. Furriers generally use liquors similar to the following:—

2½ lb. synthetic detergent (powder)  
3½ lb. anhydrous sodium carbonate  
100 gallons water at 100 deg. F.

The process may be carried out in a drum or paddle, depending upon the type and condition of the skin being scoured, or, in the case of very greasy long staple wool skins, they can be scoured by working the detergent over the wool side of the skin on a table. Sometimes scouring is carried out in two stages. First of all the skins are worked, either in a vessel or by hand, with the detergent solution, then thoroughly rinsed in warm water (100 deg. F.) containing one pound of synthetic detergent per 100 gallons of water. This leaves the fur, or wool, very soft and of good color.

#### Killing

**A**LL fur skins which have to be dyed must be subjected to a killing process which thoroughly cleans and degreases the hair. This killing is carried out after tanning and immediately prior to dyeing. The use of 0.1 per cent synthetic detergent in the alkaline solution (one lb. soda ash or anhydrous sodium carbonate dissolved in 10 gallons of water (100 deg. F.) increases the penetration of the alkali and facilitates the removal of grease.

#### Dyeing

**T**HE excellent stability of solutions of synthetic anionic detergents at low pH enables them to be used effectively and safely in dye liquors containing acid dyes. A small percentage of detergent, about 0.1 per cent on the weight of the skins, is sufficient to effect an improvement in the dyeing of greasy fur or wool.

#### Fat Liquoring and Oiling

**I**N ORDER to render fur and wool skins perfectly supple and to give the fibres a high gloss, good color and fine, soft, lofty handle, it is necessary to work or process them in oil-in-water emulsions. Here again the inclusion of a suitable synthetic anionic

detergent is of great assistance for the following reasons:—

1. The presence of alkyl aryl sulfonates in the liquor prevents breakdown of the emulsion and the deposition of grease on the fur or wool. Furs are ruined if they look or feel "greasy."
2. The presence of the detergent tends to increase penetration of the oil.
3. The synthetic detergent, unlike soap, is not thrown out of solution by acids and salts which may be present in or on the fur skins. It has been found that some of the sulfonated alcohols are also liable to be adversely affected by acids and salts and it is advisable to use alkyl aryl sulfonates in preference to the former.

The proportions of oil, usually sulfonated castor, which are present in oiling solutions may be as high as 40 per cent for moleskins and as low as four per cent for wool skins, these figures being based on the dry weight of the skins. The amount of synthetic detergent present can vary from five per cent to one per cent according to the proportion of oil present. The oiling or fat-liquoring solution is made by first dissolving the detergent in the water (105 deg. F.) and then adding the sulfonated oil with constant stirring so that a fine and stable emulsion is produced. This emulsion is worked into the fur skins in a paddle, or rubbed into the flesh side of the skins on a table.

The fur trade is a highly specialized trade, moreover, it is still somewhat conservative if not actually secretive. Manufacturers of synthetic detergents who want to break into this remunerative market should study carefully the peculiar requirements of the furrier and carry out some preliminary experimental work in collaboration with practical furriers.

Decreased color, odor, and peroxide number are obtained by rendering fats in the presence of 0.1-5.0 per cent of hydrated silica in a finely dispersed form. The fat stock is heated according to customary procedures. L. H. Libby and L. F. Henderson, to Lever Brothers Co. U. S. Patent No. 2,455,374.



# SDMA Votes to Dissolve

**T**O dissolve the Soap & Detergent Manufacturers Association in order to clear the way for its members to affiliate with the National Association of Insecticide & Disinfectant Manufacturers, Inc., New York, was unanimously voted at the annual mid-year meeting of the SDMA, held Saturday, May 7, at the Hotel Sherman, Chicago. The vote and discussion took place at a closed meeting of active SDMA members following a long discussion. The membership voted to empower the SDMA executive committee to wind up the affairs of the association.

Although a number of SDMA members already belong to NAIDM, others also are expected to join the latter and participate actively in a new soap and detergent specialty division to be formed. NAIDM, which meets in Chicago, June 13 and 14, will vote on a change in name and to set up new divisions within an expanded and reorganized frame-work. Andrew P. Federline, executive secretary of SDMA, will continue his other trade association activities and plans to expand his private law practice in Washington.

A varied program of papers dealing with problems facing the small soap manufacturer and presented for the most part by association members highlighted the Chicago meeting. It was opened with brief addresses of welcome by Charles B. Solly, Harley Soap Co., Philadelphia, president, and Andrew P. Federline, executive secretary of S.D.M.A. The meeting was turned over to Herbert Kranich of Kranich Soap Co., Brooklyn, program chairman, who presided at the morning and afternoon sessions.

The first speaker of the morning session, Chris F. Bingham of Chemical Manufacturing & Distributing Co., Easton, Pa., discussed "Current Trends in Raw Materials, Production and Marketing." Following an enumeration of raw material prices, which have declined on fats and oils, paper board, phosphates and other

## Acts at May 7 Chicago meeting . . . Members plan affiliation with NAIDM In new soap and detergent section

alkalies, but are high and may go higher on containers, freight, labor and just recently on lanolin, Mr. Bingham pointed out that consumers are becoming more selective in their choice of supplies. More thought is being given to the quality of the product than to the cost of the product, he said.

The speaker also observed that new synthetic production of glycerin by the petroleum industry has resulted in much lower prices. In turn, revenue formerly received for glycerin as a by-product of soap manufacture and credited to soap manufacturing cost has now seriously declined. The result is that in a number of cases the actual selling price of soap cannot be decreased in proportion to the lowered cost of the raw materials.

Further, Mr. Bingham stated, "Many suppliers are now offering yearly contracts to secure back log tonnage for operation . . . large consumers are now being offered contracts based on both fat prices and glycerin prices. These contracts provide a soap price based on the tallow market, plus an allowance for glycerine recovery. It seems a little complicated but it does assure the soaper of a market for his products at a profit at all times during the contract period and at the same time assures the consumer that the supplier will not take advantage of any unusual decrease in the fats market."

Figures on the Cleaning and Polishing Preparations Industry from a Bureau of Census report were quoted by Mr. Bingham indicating that \$261,600,000 worth of these materials was shipped in 1947, as compared with \$89,000,000 in 1939. The report also showed that the number of people employed in the industry in 1947

totaled 15,352, against 9,978 in 1939 and the investment for new plant equipment was \$9,700,000 in '47, as compared with \$1,500,000 in 1939.

Mr. Bingham declared that a sharp contest between soaps and synthetic detergents is imminent. Better formulated detergents and newer types of synthetics of special uses have resulted in tremendous expansion of the synthetic field. The war time shortage of fats and oils spurred research that resulted in greater product improvement in this field than in any other, he stated.

He concluded by offering the following nine point plan, which one company is operating under:

1. Work on a day to day basis, always doing the best possible job each and every day.
2. Make no long range obligating plans. Stay flexible.
3. Make no large capital expenditures for physical plant expansion beyond those actually necessary for present business.
4. Work actively through research both in laboratory and market to reduce production costs.
5. Maintain a small but very active inventory of raw materials.
6. Watch accounts receivable very closely.
7. Build a strong active sales department, and this is important, because lots of the younger men have not been in a real competitive age. More time should be devoted to the sales force. Go back to the old saying, "If you look after your sales force, you won't have to look after your sales figures." Reduce selling expense by constructive training and not by destructive price slashing.
8. Review your products one by one, eliminating some non-profit items and add newer, better profit products.
9. Lastly, improve the quality of each and every product that you are offering for sale today.

Although the soap industry is the largest consumer of perfuming

materials today, it has not exploited all the sales and merchandising advantages of suitably perfuming its products, according to the second speaker of the morning session, R. E. Horsey of Givaudan-Delawanna, Inc., New York. In spite of the consumer's demand for pleasant smelling products, there are many manufacturers who ignore this demand completely, or endeavor to get by by using inadequate and poor quality odors, he stated. He further pointed out that a detergent may have excellent cleansing properties but it will never meet with consumer acceptance if its odor is objectionable.

Mr. Horsey traced the early history of the use of perfumes, which he indicated antedated soaps and their use in body cleansing. The original function of perfumes was to mask unpleasant body odors, which required heavy pungent odors. With the introduction of soaps, more flowery, more highly refined and less heavy odors could be used, which led to their incorporation in soaps. After pointing out that a "neutral odor" point in soaps is illusory, the speaker pointed out that one of the recently introduced, nationally advertised detergents has been pleasantly scented in contrast to many which are marketed with little or no odor added. Not only does this new, perfumed detergent give off a pleasant odor during use, but also imparts a pleasant, refreshing odor to clothes being washed with it, he said.

The role of perfumes in soaps as skin irritants was minimized by Mr. Horsey, who discussed the advantages of a soap manufacturer buying perfume compounds already made up, rather than attempt to formulate them himself.

In discussing "How Small Manufacturers Figure Their Overhead Costs," the next speaker, W. S. Jessop of U. S. Sanitary Specialties Corp., Chicago, asserted that there is no hard and fast rule for cost accounting. A study of costs is of the greatest importance today in this time of deflation because of the high break-even point the long inflationary period has imposed on business, Mr. Jessop said. We are all aware, he continued, that a fall

in volume of business today is much more serious than a similar drop before, because of the relatively higher peak that costs and expenses have risen to—coupled with the fact that there is always a considerable lag after the drop in sales volume and/or prices before the decline in overhead expenses, particularly wages.

To illustrate, Mr. Jessop quoted the following figures comparing costs as experienced by his firm, over the past 10 years:

	Coconut Oil	Freight	Labor	Kettle Cost
1939	100.0	100.0	100.0	100.0
1942	114.5	106.0	124.2	113.7
1945	122.7	106.0	144.0	120.8
1947	197.7	127.2	189.9	186.2
1948	236.3	167.8	215.4	227.3
Feb., 1949	160.0	174.4	220.8	152.3

Some idea of the size of these cost increases may be gained by comparing them with soap prices of the company. In 1947, soap prices reached 121.2; in the following year they went to 136.3. This can only mean one thing, and that is that the soap manufacturer's profit margin has been severely reduced. In which case he should study his overhead. Unless it is reduced, he will soon be operating in the red. This can be done in two ways, according to the speaker: 1.) By increasing volume of sales by which overhead expenses become less, percentagewise, or, 2.) by economizing on expenditures, which is the direct method of attack. To figure costs, Mr. Jessop said his firm uses its general financial statements and reanalyzes them in four sections: 1.) Direct materials and labor (prime cost); 2.) manufacturing expense—factory burden or departmental on cost (overhead); 3.) distribution and selling expenses (overhead) and 4.) administrative expenses. Costs in the last three categories should be separated into fixed and variable costs. To reduce a break-even point the first overhead to be attacked are the fixed costs. If through increase in production efficiency and by other economies the proportion or variable costs can also be cut, then the manufacturer will have more elasticity, according to the speaker.

The object of this aspect of cost accountancy is to highlight the items of expense and to focus the manufac-

turer's attention on them. As a result, it was found that although the cost of processing orders in Mr. Jessop's firm was about the same, on transactions of \$10 or less an operation loss of about 30 per cent was shown, on orders of \$25, the firm broke even, and on orders of \$100 an operating profit of 24 per cent was realized. The first group of orders represented 25 per cent of the total, the second group 28 per cent and the third group the remaining 37 per cent.

In making the choice as to a cost system the small manufacturer has to decide between the statistical and the cost system of accounting. A combination of both was recommended by the speaker, who urged some system of cost accounting because of the increasingly shorter margin of profit under which manufacturers are working today.

Following a group luncheon, a brief discussion of the position of the industry on the minimum wage hearings was held.

The need for product liability insurance was developed and urged in a talk by A. Roy Allison, Stevens Grease & Oil Co., Cleveland, who cited a number of cases in which manufacturers were held liable for injury and death caused in the use of their products. This coverage has been under-sold in the past, especially to the small manufacturer, but today with the production of consumer goods in the U. S. at an all-time high, there is a wide open market for product liability insurance, Mr. Allison declared.

H. W. Zussman, Alrose Chemical Co., Providence, R. I., in discussing "Analytical Methods for Surface Active Agents," pointed out that little attention has been paid to analytical methods up to the present in connection with surface active agents. Analyses are helpful in knowing how products work and in determining the composition of competitive products. (Turn to Page 141)



**C**ONTRACT packaging is a service designed to meet the demands of competitive merchandising by performing all, or a portion of the manufacturing and packaging operations in the chemical and chemical specialty fields. Those engaged in this enterprise are also referred to as contract manufacturers. They are production specialists, who leave the highly developed techniques of sales and distribution to experts in those fields. Factories doing contract packaging are designed for quick change-over in equipment. They are staffed by operators highly trained in certain basic production techniques that are widely adapted to a variety of industries.

The service can include the development of formulae (liquid or dry), packaging, packing and shipping of the finished product, or any portion of those operations. The packaging may

**By Carl M. Leeds**  
Specialty Package Div.  
Leeds Company

be highly specialized, decorative, stylized and/or functional to meet the highly competitive practices and the needs of over-the-counter selling. The contract manufacturer can do packing to comply with legal specifications, or the particular need of the product to guarantee safe arrival at its destination, or meet safety requirements, regardless of the hazard.

Those who can profitably use the services of a contract packaging plant are large or small organizations whose personnel is skilled in sales promotional and distribution efforts, and who are in a position to leave production to specialists; firms whose overhead is out of proportion to the value of production; those with fluctuation

in production loads; concerns requiring a small volume of specialized production, not readily compatible with their main activity; companies in specialized fields, where the importance of sales and promotional efforts, far outweigh the value of production; and finally those who are planning a simple campaign, with or without literature enclosure.

The contract manufacturer should have no interest directly or indirectly in the sale and distribution of any branded merchandise. He must devote himself exclusively to the techniques of production and have no interest in, or contact with retailer, or consumer distribution.

The production staff of the contract manufacturer should be so composed as to include both technically trained personnel, graduate engineers, chemists, and others of long practical experience. The theoretical tendencies



of the graduate scientist must be balanced by the practical approach of the experienced plant man. Likewise, the plant manager must not be permitted to overlook the scientific contributions available through the services of a graduate engineer or chemist.

The combined skills of the contract manufacturer must be competent to advise the client on the practicability, from a production angle, of a proposed package or product.

Many packaging operations, apparently unrelated to the untrained, become identical when analyzed and reduced to their ultimate units by trained technicians. For example, one such analysis showed that the assembly of a hair-rinse was identical in nine out of 10 unit operations to the assembly of a textile into a "consumer unit" package.

A well equipped contract packager is equipped with a variety of basic machines that can be adapted to several operations. A standard liquid filling machine, for instance, can handle several sizes and styles of containers. As to the material itself, only a few properties are of major concern: viscosity, foaming tendencies, corrosiveness and inflammability. Outside of these the handling of fluids is more or less uniform.

The contract packager with a large investment in equipment has the capacity to handle a tremendous variety of materials. Occasionally, he may be called upon to make additional investments in equipment, having only specialized use. Naturally he will hesitate to make such investments on vague and indefinite commitments. In some cases it is more profitable for the client to furnish such equipment for his production exclusively. As a result, a close relationship and complete confidence must exist between the contractor and the client.

Equipment of modern production plant must be installed and maintained so as to allow maximum flexibility in its operation. This involves considerable stock of change-over parts, and trained personnel competent to install such parts. By combining the productive capacities of several firms, peaks and valleys in production loads are eliminated, and trained per-

sonnel can be retained on a year-round full time employment basis, avoiding the difficulties and costs inherent to the training of new personnel, etc.

Actually, the contract packager functions as his clients' production department, and the relations between client and contractor should approach an intimacy of that existing between the sales and production department of a corporation.

No matter what size the plant is, efficient operation requires certain trained personnel: plant manager, record clerk, maintenance man, etc., and certain untrained help, such as porters, for jobs not usually acceptable to production personnel. In addition, comparatively large capital investment, with resultant fixed charges for interest and amortization, form a part of the cost of any business. The total labor employed directly on production is relatively small, but the ratio of indirect (and frequently hidden) fixed costs to direct labor costs, usually runs extremely high. The contract packager, by apportioning such charges over a number of accounts, is in a position to produce at a lower price. Because of the volume, the contract packager is more highly mechanized, commands greater skills, and produces a better product at a lower cost. The client can pass on these savings to his customers, who in turn, can reduce the price to the consumer, which inevitably increases consumption and a greater turn-over in sales volume.

Plants employing 25 operators or less can profitably transfer the production, packaging and packing of his product to a thoroughly equipped and reliable contract packager.

Efforts to pace production over long intervals, in order to avoid peaks and valleys, impose a heavy financial burden and involve excessive warehousing facilities. The use of a reliable contract packager to augment the facilities, will not only reduce costs, but allows much latitude of sales promotional and distribution efforts. Actually, some clients consider it essential to contract some work at regular intervals, in order to insure that the contract packager's facilities are ready and available as "stand-by" capacity.

Frequently, a packaging operation, entirely foreign to the main production effort of an organization, becomes essential. This is especially common today when both retailer and consumer are demanding attractive and functional packages, designed to insure easier use of the product or a safe and clean arrival at their ultimate destination. Many producers are finding, or will soon discover, that their old plans are as obsolete as the "cracker barrel." Chain and department stores, for example, demand that textiles cut in consumer lengths be wrapped in cellophane envelopes to eliminate losses due to counter cutting and soiling. A large cosmetic distributor re-styled his package and doubled sales by distributing his product in a special collapsible plastic atomizing container. In another case a large woolen merchant found it necessary and profitable to merchandise his material in consumer lengths attractively packaged.

Installation of a packaging department, with its specialized techniques and capital investment may be necessary, but it would be wise to investigate contract packaging before installing such a department.

### Machine Tests Cleansers

The development of a new testing machine by which small differences in rates of cleaning can be detected result from a research program undertaken at Armour Research Foundation of the Illinois Institute of Technology, Chicago. The research, which is in its third year, is being done on a new scouring cleanser manufactured by Cudahy Packing Co., Chicago. According to the Foundation's annual report, the development of the testing machine "has made it possible to test the effects of relatively minor variations in the composition of experimental cleansers and to choose the optimum composition for commercial production."

### Cosmart Appoints Dreher

Cosmart, Inc. has appointed the E. A. Dreher Jr. Merchandise Agency, Maplewood, N. J. to handle domestic and foreign sales of its baby shampoo.



# SOAP EXPORTS\*

**E**XPORTS of soap from the United States in 1948 declined 31 per cent to \$11,561,885 from the 1947 level of \$16,815,100, according to a report issued recently by the Office of International Trade of the Department of Commerce, Washington, D. C. Fourth quarter, 1948, shipments, valued at \$3,320,954, were five per cent above the corresponding quarter in 1947. Even with higher soap prices, the amount of soap exported by the U. S. last year was considerably greater than in pre-war years. In 1938, the value of U. S. soap exports was put at \$2,796,949.

Last year U. S. exports of toilet and medicated soaps, valued at \$6,010,517, were three per cent under the 1947 figure of \$6,236,900. The drop in shipments of U. S. laundry soaps, as compared with the previous year was more pronounced: \$2,854,035 worth in '48, as against \$5,669,200 in 1947. Although not quite as sharp as the drop in the value of laundry soaps from the 1947 level, powdered and flake soap shipments suffered a sizable decline last year, being 41 per cent under the previous year's value. The figures were, for 1948, \$1,509,468, as compared with \$2,580,900 in 1947.

The value of all other types of soap products, all in the under a million dollar class, showed marked drops in 1948, as compared with 1947. Shaving cream exports fell from \$452,800 to \$229,600; scouring bricks, pastes, abrasive type soaps and household washing powders slipped from \$847,300 to \$563,700; "other soap" declined from \$792,100 to \$343,600; and shaving cakes, powders and sticks dropped from \$235,900 to \$51,000.

Changes in the leading markets for U. S. soap exports were recorded in 1948. Canada and the Philippine Islands in 1947, occupying first and

**U. S. exports of soap in 1948 decline 31 per cent from 1947 level with changes in top ten leading importing countries.**

second places, respectively, as the countries receiving the largest imports of U. S. soap products, switched places last year. The Philippine total rose from \$1,671,900 in '47 to \$2,345,800 in '48, while the value of Canadian imports of U. S. soap went from \$2,856,000 in '47 to \$1,629,200 in '48. The U.S.S.R., third largest importer of soaps made in America in 1947, when she received \$1,209,800 worth, was not included in the list of the 10 principal U. S. soap importing nations in 1948. Her place was occupied by Venezuela, not among the top 10 in '47, but in "show" position last year with imports of \$702,800. Canal Zone was next, having come from tenth place in '47,

with U. S. soap imports valued at \$646,200 in '48. Panama, Curacao, Union of South Africa, Japan, Haiti and Cuba followed in that order. India and Poland, in fifth and seventh places in the 1947 list of importing nations, were among the missing in the top 10 in '48. The 10 most important U. S. soap importing nations in both 1947 and 1948, received approximately 67.7 per cent of the year's total of U. S. soap exports in terms of value.

Of the ten countries who were leading importers of U. S. soap products during 1948, Canada, Canal Zone and Haiti purchased more laundry soap than any other single type. Japan

(Turn to Page 151)

## United States Exports of Soap by Types

	1947	1948
	(Thousands)	
Medicated and toilet soap.....	\$ 6,236.9	\$ 6,010.5
Laundry soap .....	5,669.2	2,854.0
Powdered and flaked soap.....	2,580.9	1,509.5
Shaving creams .....	452.8	229.6
Shaving cakes, powders, and sticks.....	235.9	51.0
Scouring bricks, pastes, soaps (abrasive type), household washing powders.....	847.3	563.7
Other soap .....	792.1	343.6
Total .....	\$16,815.1	\$11,561.9

## United States Exports of Soap to Leading Markets, 1947-48

(Thousands of dollars)			
Country	1947	Country	1948
Canada .....	2,856.0	The Philippines .....	2,345.8
The Philippines .....	1,671.9	Canada .....	1,629.2
U. S. S. R. ....	1,209.8	Venezuela .....	702.8
Haiti .....	965.1	Canal Zone .....	646.2
India .....	926.1	Panama .....	557.0
Cuba .....	885.6	Curacao .....	501.8
Poland .....	768.0	Union of South Africa.....	441.6
Curacao .....	726.7	Japan .....	400.0
Union of South Africa.....	706.6	Haiti .....	377.2
Canal Zone .....	670.3	Cuba .....	227.4
Total .....	11,386.1	Total .....	7,829.0

\* Based on a report issued recently by S. Pickers and E. C. Schuttrumpf of the Office of International Trade, U. S. Department of Commerce, Washington, D. C.

# ***Radiator Cleaners***

**Not essentially complex, automobile cooling system cleaners are of three main types: alkaline, mixtures, acid. The market for them is a growing one.**

**By Milton A. Lesser**

**D**URING recent years considerable interest has been focused on automobile cooling system cleaners or radiator cleaners. Products of this sort, in liquid or powder form, now occupy prominent places wherever products for car maintenance are sold. With millions of cars, busses and trucks on the roads, and with the number constantly increasing, a substantial market for these special cleaners seems assured for many years to come.

The increased importance of cooling system cleaners came about as a result of the longer and more intimate association of most car owners and their hard-to-replace vehicles. During the time when people perforce held on to their cars longer than was usual, they found out a good deal about the care of their prized possession. Included in this knowledge was the fact that the cooling system is more than a container for water during the summer or for antifreeze in the winter. Folks began to appreciate that an efficient cooling system is important to the life of their car. They also realized that a little attention, including a cleaning with a suitable preparation at least twice yearly, results in a properly functioning cooling system.

The component parts of the cooling system must be kept clean so as to permit rapid transfer and dissipation of heat. The cooling system of the modern automotive engine consists essentially of a radiator, radiator hose, circulating pump or pumps, cooling

fan, and the passages to the engine block and cylinder head through which the coolant (e.g. water, antitreeze or other liquid) flows to the various parts of the engine. The radiator, perhaps the most important part of the system, serves as a heat exchanger in which the heat transferred to the coolant, as it passes through the engine, is dissipated into the surrounding atmosphere. (1)

Proper cooling contributes more to continued engine efficiency and to long car life than is generally realized. Neglect results in waste of gasoline, lubricating difficulties, and excessive wear or damage of the engine from either overheating or overcooling. The importance of maintaining the cooling system at its highest efficiency is evident in the observation (2) that even in the smaller engines the amount of heat which must be dissipated through the cooling liquid and radiator is sufficient to heat a six-room house on a zero day. The amount of water pumped at high speed in such an engine would fill a 50-gallon drum in one minute. Hence it is understandable why complete failure of cooling for any reason means dangerous overheating of the engine in a few minutes. Overheating may cause the lubricating oil to break down and "gum up" the engine. The final result is scored cylinders, burned valves and other serious mechanical difficulties. Overheating also causes pitting and burning of engine metals, and in severe cases may lead to a cracked engine block.

Cooling system failure results either from mechanical trouble or from chemical factors. Mechanical troubles include difficulties arising from worn, poorly adjusted or broken parts. Such troubles, as a rule, are not too difficult to determine and remedy. Chemical difficulties are caused by rust, corrosion and scale. In most cases it is much easier and certainly a lot cheaper to prevent than to cure cooling system illnesses due to these chemical factors.

Even under optimum conditions, when effective corrosion inhibitors and water conditioners are present in the cooling system, there is a gradual accumulation of small amounts of rust and scale, mechanical contamination from refill water, and grease from the water pump and oil or oxidized hydrocarbons, due to "blow by" from the combustion chamber. Accumulations of this sort are likely to go unnoticed for some time but may eventually result in the need for extensive repairs. A serious condition arises when the radiator is partially or completely blocked as manifest by overheating and boiling. This condition may be the result of the motorist's failure to use a corrosion inhibiting additive or of his having chosen an ineffective preparation. It may be caused by the use of certain objectionable antifreeze materials, such as calcium chloride solutions which attack metal, or petroleum products which soften the hose and cause it to disintegrate. (3)

While these and other chemical

factors may enter the picture, it is generally recognized that rust, corrosion and scale are the primary causes of cooling system inefficiency and failure. As pointed out in a report (2) prepared for the government by experts from the Society of Automotive Engineers, iron rust is the principal problem in the loss of heat transfer and in the clogging of radiator and water jackets. Analyses of clogging materials removed from radiators and water jackets showed that they consist mostly of iron rust, water scale and grease, with rust comprising over 90 per cent of the bulk. The fine rust particles circulating through the radiator have a tendency to plate out in the form of a thin, hard scale on the inside walls of the water tubes and tanks. A year or more is generally required for the rust layer in the radiator tubes to become thick enough to restrict circulation seriously. In the meantime, however, the scale accumulations continue to reduce the radiator's cooling efficiency until the engine finally overheats.

It is an unfortunate fact that the cooling system is the part of the automobile most susceptible to corrosion. (4) Although classed (5) as a less common cause of trouble than rust clogging, corrosion damage to metal parts can be equally serious. Corrosion is associated with the water fed to the cooling system, with the presence of dissimilar metals, and to other elements. The common water contaminants associated with cooling system corrosion are oxygen from the air, dissolved minerals in natural water supplies, acids from exhaust gas leakage into the system, undrained cleaning solution, inorganic salt antifreezes, and some stop-leak preparations. Electrolytic corrosion is stimulated by different metals in contact with each other, as in alloys, soldered and brazed joints and imperfect plating on thin steel parts.

In hard water areas the formation of lime and other mineral scale may be a serious factor in lowering the efficiency of the cooling system. The way in which calcium and magnesium salts contribute to scale formation and the way in which they decrease heat transfer is an all too familiar phenom-

enon. (6) Moreover, in combination with rust, scale also helps to clog the radiator.

As previously mentioned, analyses have shown that grease is present in the materials which clog radiators and water jackets. Hence suitable emphasis should be placed on the presence of grease and oil in the automobile cooling system, not only because of their effects on the system's efficiency, but also because of their influence and binding action on dirt, rust particles and other substances. This grease and oil may enter the system through the water pump and through leaks at the cylinder-head joint or in water-jacketed oil coolers and lines. (2)

#### **Cleaners Are Important**

**I**N VIEW of the variety of factors that can influence the efficiency of the automobile cooling system or even cause its complete failure, it is not surprising that suitable cleaning preparations loom large in the cooling system maintenance picture. Periodic preventive cleanings rather than expensive corrective measures are stressed by the experts, even though no overheating or other evidence of trouble is present. For example, in a manual (5) recently issued by the Society of Automotive Engineers it was advised that, "Prompt attention to preventive cleaning is the only sure way to avoid loss of equipment use and extra work, time, tools, and materials required for corrective cleaning of a rust-clogged system. Effective and safe preventive cleaning requires that only dependable cleaning compounds be used, and that manufacturer's directions be followed."

It has been suggested that cleanings can be given on a mileage basis. Generally, however, it is recommended that the cooling system should be cleaned after draining rusty or contaminated coolant and before fresh fluid is installed. It is common practice to check and clean the system at least twice yearly. This is best done in the spring when the antifreeze is drained and in the fall just before the coolant is added. Since the summer is the cooling system's busy season, it is important that the spring inspection and cleaning be especially thorough.

Although the procedure varies in some details with the different types of products, the method for cleaning cooling systems follows a rather set pattern. The first step is to drain the cooling system. Then add the cleaning compound and fill the system with water. Run the engine at a fast idling speed for at least 30 minutes after the cleaning solution has become heated up to at least 180°F., but below boiling. While the engine is idling it is usually necessary to cover the radiator in order to maintain a temperature of between 180° and 200° F., so that the thermostat valve remains open and flow of the cleaning solution is unrestricted.

After the idling period, the engine is stopped and the cleaning solution is drained off; carrying with it the dissolved and loosened grease, scale, rust and dirt. A thorough flushing of the radiator and water jacket completes the cleaning operation. Following the use of a cleaning solution, a more positive method for removing the cleaner from the water jacket is as follows: Completely drain the solution, fill with water, and run the engine long enough to open the thermostat for complete circulation through the system. Finally, drain the water completely. (2)

With some products, it is suggested (7) that the cleaner can be used while driving. The solution is left in the radiator until the car has been driven for two hours or about fifty miles, after which the solution is drained and the system flushed as usual. However, the experts (2) advise against driving the car with cleaning solution in the system, because of the danger of overflow loss from foaming. Although it is not a commonly employed method, the specifications (8,9) for some patented cleaners suggest that the solution may be left in the system overnight; to be followed by draining and flushing.

When the cleaning is finished, the cooling system is filled with antifreeze or water, according to the season. In either case, it is strongly recommended (5) that a corrosion inhibitor be present in the coolants. This helps to maintain the efficiency of the system and reduces the need for frequent



cleaning and flushing. Standard anti-freeze solutions already contain such an agent, but it is necessary to add a corrosion inhibitor to water. Various types of corrosion inhibitors for this purpose are available commercially. Chromates are prominent among the compounds suitable for addition to cooling system water to prevent corrosion. (4,10)

In the main, automotive cooling system cleaners are not especially complex products. For the sake of convenience in discussing their production and action, cleaners may be divided into three main types or classes. These are (a) alkaline cleaners, (b) mixtures and emulsion cleaners, and (c) acid cleaners. These are supplied in dry or liquid form. When the dry type of product is used, it is advisable to dissolve the cleaning compound in water before adding it to the water in the system.

#### Alkaline Type Cleaners

**W**ASHING SODA, trisodium phosphate, and silicates form the basis of most alkaline type cleaners. Formerly nearly all radiator cleaners were of this class, and they still find very extensive use. Although these materials cut grease and remove loose rust and dirt, they are deficient in certain important respects. To be fully effective, a cooling system cleaner must be capable of removing the hard adherent scale by a dissolving action. Alkalies have no solvent action on the rust itself, and this type of cleaner acts very slowly, if at all, on scale. (2,5) Hence, only small amounts of the deposits are removed in the time ordinarily given to cooling system cleaning. (3) Nonetheless, they have been described (11) as being satisfactory for most ordinary jobs.

Alkaline cleaners generally consist of a single alkaline salt, but occasionally other adjuncts are included. Especially important are corrosion inhibitors which serve to combat the danger of attack by the highly alkaline solutions on the aluminum, brass or copper parts of the cooling system. Chromates are frequently used for this purpose.

Washing soda, in strong solu-

tion, is still quite frequently recommended (12,13) for cleaning automotive engine cooling systems. Soda ash is also employed for this purpose. A product based on this compound, used in conjunction with a corrosion inhibitor, is said (11) to consist of:

	per cent
Soda ash .....	35
Sodium dichromate, dihydrate..	65

Trisodium phosphate also holds a prominent place among alkaline type cleaners. (12) One manufacturer of a well known household cleaner consisting essentially of trisodium phosphate has recently issued display cards stressing the value of his product for cleaning the car radiator. These placards advise that the motorist drain the radiator, refill with plain water and add a full package of the product (10½ ounces). Then idle the motor for 25 minutes, drain the system, rinse with water and refill. As should be the case with all alkaline cleaners, and indeed with practically all types of cooling system cleaners, the card also carries a caution against letting the solution get on fenders, hood, body or paint work.

This alkali may also be made available in a solution containing a corrosion inhibitor, as in the following example: (11)

	per cent
Trisodium phosphate .....	12.0
Sodium chromate .....	0.3
Water .....	87.7

Silicates are also used to make radiator cleaning compounds and are considered to be especially efficient in suspending particles of rust or undissolved scale. A typical, suitably inhibited cleaner based on sodium silicate, is as follows:

	per cent
Sodium silicate solution, 52°Be .....	33.00
Potassium chromate .....	0.15
Water .....	66.85

However, from a check of both the technical and patent literature it seems that sodium metasilicate is the silicate most favored for formulating these special cleaners. Snell, (11) for example, mentions that one commercial product consists simply of a solution of 20 pounds of metasilicate in 10 gallons of water. In his patent on radiator cleaners, Hendry (8) states that sodium metasilicate gives superior results in removing rust, dirt and

scale. He suggests it may be used as such or in solution with water or solvents.

Other types of alkaline preparations find use as cooling system cleaners. Hall's patent, (14) for example, describes mixtures which are claimed to be especially efficacious for removing iron and hard water scale from automobile radiators without material injury to the treated surfaces. These consist of combinations of sodium hexametaphosphate or sodium tripolyphosphate or mixtures of both with a soluble alkali, like trisodium phosphate, sodium carbonate, silicate or metasilicate, and a corrosion inhibitor. Thus, an effective cleaner could be made from:

Sodium hexametaphosphate..	2 oz.
Trisodium phosphate .....	1 oz.
Sodium sulfite .....	½ oz.

#### Combination Cleaners

**I**N ORDER to speed the action of alkaline cleaners against the oils and greases in the cooling system, solvents are sometimes employed concurrently. Kerosene is often used for this purpose. Hendry, (8) for example, claimed that better effects are obtained when sodium metasilicate is incorporated with kerosene. He also found it advantageous to incorporate a small proportion of a corrosion inhibitor. On this basis, a radiator cleaning composition could consist of about equal parts of kerosene and sodium metasilicate, with or without 0.5 to two per cent by weight of sodium bichromate.

Combinations of alkali with kerosene are probably more efficient in removing organic contaminants, but the solvent does not mix well with the water and in this form is apt to harm the rubber parts of the system. (3) Sometimes other solvents are used with or in place of kerosene. One patented product (15) uses a mixture of dichlorethyl ether, kerosene and trisodium phosphate. In another case, (16) trichlorethylene is used in combination with an alkali.

Another approach to the conjunct use of alkali and solvent may be described as a two-package method. In describing such products, Amthor and Reinhard (17) state that most rust and dirt are attached to the surface by a film of grease and oil. The first



step is to remove this film and then add a cleaning alkali. To this end a solvent mixture is introduced into the radiator, the engine allowed to run, and then an alkali is added to the water. A suitable solvent mixture is made from:

	parts
Kerosene .....	1400
Orthodichlorbenzol .....	2275
Oleic acid .....	350

This is marketed in a composite package, one part of which consists of four parts of the solvent mixture; the other comprising one part of alkali—sodium metasilicate being preferred. Products of this sort are said (11) to be applicable where the deposits in the cooling system have a high grease content.

Obviously the disadvantages of the rather crude kerosene mixture and the two-package products can be eliminated by the use of suitable emulsifiers. By such means the solvent is dispersed throughout the water and reaches all parts of the cooling system and only one package is needed. Moreover, in the emulsified form there is less tendency for attack on rubber parts. (3) A number of examples of cleaners which provide a combined alkali-solvent action are available, especially in the patent literature. Illustrative is a product claimed (18) to contain in one preparation all the ingredients and reagents necessary to the cleaning of the cooling system. This comprises an emulsion of:

	parts
Kerosene .....	25
Orthodichlorbenzene .....	25
Borax .....	5
Diglycol oleate .....	5
Water .....	40

Combinations of alkali cleaner, wetting agent and solvent described by Calcott and Cheney (19) are claimed to be unusually effective where dirt and corrosion products are mixed with oil or grease to form adherent pastes or gums. Said to be useful in concentrations as low as five per cent, a typical emulsion cleaner may consist of:

	per cent
Trisodium phosphate .....	75.0
Wetting agent (1-isopropyl naphthalene - 2-sodium sulfonate) .....	7.5
Dichlorobenzene .....	17.5

In another case, (9) a special soap made with the acids of oxidized paraffin wax is used as the emulsifying

agent in radiator cleaning compounds. This emulsifier is used in conjunction with sodium metasilicate and kerosene.

#### Acid Type Cleaners

**B**ECAUSE they are capable of removing hard, adherent scale by a dissolving action, the acid type of cooling system cleaners are preferred by the experts. (2,5) They note that

#### PLASTIC WOOD

The name, "Plastic Wood," is a registered trade-mark owned by Boyle-Midway, Inc., a subsidiary of the American Home Products Corp., 22 East 40th St., New York. Its use as a generic term in an article entitled "Crack Fillers" in the March issue of SOAP & SANITARY CHEMICALS was in error. In protesting this use, Dudley Browne, Assistant Vice-President of American Home Products, stated: "In this article, the registered trade-mark, Plastic Wood, has been used as a generic term a great many times to the detriment of the trade-mark. I must, therefore, request that in the next earliest issue possible you publish a retraction of the use of the trade-mark, Plastic Wood, as a generic term."

#### The Editors

products containing oxalic acid and sodium bisulfate have proved satisfactory with respect to their action on rust and associated scale. Such products are widely used and are specified by the U. S. Army. However, since an acid cleaner can also attack metal if permitted to act long enough, it is desirable that the acid product be inhibited to reduce cooling system corrosion to the minimum consistent with effective cleaning. It is also suggested that the employment of acid cleaners should be followed by the use of an alkaline neutralizer to end any chemical action on the part of any residual cleaning solution. After draining the system of cleaning solution, the required amount of neutralizer is added and the system is filled with water. The engine is run until warmed up to driving temperature in order to circulate the neutralizer solution throughout the system. Finally flush out with water to complete the cleaning operation.

The effectiveness of oxalic acid against rust is a familiar phenomenon. As noted by Ryznar, (20) a solution of oxalic acid will readily remove the iron oxide scale which is deposited in radiators. He states that treatment with this acid may be carried out periodically and as often as desired without harmful effects. Concentrations of oxalic acid which may be employed in the circulating system may vary within wide limits; from a fraction of a per cent up to a saturated solution.

Sodium bisulfate or sodium acid sulfate produces strongly acid solutions in water. As a rule, from 14 to 16 ounces of the salt are required per cleaning job. (12) When properly used the material is said (4) to have no adverse effects on sound cooling systems, but old radiators doctored with stop-leak preparations may not be able to stand up under the effective action without springing leaks.

On occasion, oxalic acid and sodium bisulfate are used together. Bennett (12) cites a formula for a radiator rust remover consisting of equal parts of these compounds. Of related interest is a commercial preparation described by Snell (11) as consisting of:

	per cent
Oxalic acid, dehydrate .....	82.5
Sodium bisulfate .....	5.0
Sodium sulfate .....	11.5
Petrolatum .....	1.0

Although these rather simple acid cleaners are very effective in removing rust and scale, this type of product will remove very little oil or grease deposit. To overcome this difficulty, products have been developed in which the acid component or components are used in conjunction with emulsifying or wetting agents. Solvents may or may not be included. An example of such a combined-action emulsion is given in Ryznar's patent (20) as follows:

Oxalic acid .....	400 Gm.
Sodium acid sulfate .....	50 Gm.
Sodium lauryl sulfate .....	20 Gm.
Kerosene .....	2 qts.
Water .....	5 gal.

Another but simpler product of a like nature is described (11) as containing sodium bisulfate, a surface active agent such as a sodium salt of an alkyl aryl sulfonate and a small proportion of diammonium phosphate as a  
(Turn to Page 147)



Above: Giant central display of Lever Brothers products designed for the super-market type store. Manufactured from super-strength corrugated board it shows many items.

# DISPLAYS

**T**HE IMPORTANCE of vending displays in the retail sale of soaps and related chemical specialties was graphically illustrated in a booklet on the subject issued recently by Hinde & Dauch Paper Co., Sandusky, O. The photographs shown on this and the facing page were among those used to illustrate the booklet, which is entitled, "How to Select Vending Displays That Increase Sales."

The booklet points out that merchandise displays, fabricated from corrugated fibre board, are "designed to place a substantial supply of a given product on the buyer's side of the store counter, and from that advantageous selling point to become efficient silent salesmen, capitalizing on the 'serve yourself' instinct of the purchasing public." Based on tests in retail stores it was found that merchandise displays could become a major selling factor if properly designed and

thought out in advance. That these displays play an important part in retail selling is borne out by the number of leading firms using this selling tool. Each display must be designed to do a special selling job for a particular product or line of products.

Expert technicians, display designers, engineers, color consultants and manufacturing craftsmen are called in to design and construct displays. Usually bright, attractive colors, graceful and sturdy lines are the hallmarks of the successful display.

From the consumer's standpoint vending displays give her an opportunity to inspect the product(s), which is a real advantage in this day of the self-service type market.

The retailer likes them because they stimulate sales, require little floor space, are always on the job and are a help to the store's sales staff.

Most displays are designed to

Below: This display shows the ability of the designer to capture a desired effect. Human interest and life like appearance draw customers to the display, which was made for Lever Brothers Co.



Below: The display shown, produced for McCormick & Co., Baltimore, illustrates the handling of a brief sales story. It demands instant attention, invites inspection of products. Design is pleasing and construction is sturdy. Such a display adds sales help to the retailer's staff.



# that sell

provide large areas for colorful sales messages and illustrations. They can be adapted to almost any retail sales situation. For simplicity in setting up,—an important factor to the retailer,—most displays consist of one or two pieces; seldom more. In addition to the work of selling goods they serve the very useful function of identifying the manufacturer who consistently uses them to promote sales and to foster dealer good-will and cooperation.

The ideal display combines attractive, attention getting design with sturdy construction, since displays on crowded selling floors take quite a bit of punishment. Their finish must be one that can be cleaned easily, to prevent the display being discarded because of soiling.

Cost is a factor, but the successful vending display soon pays for itself many times over from the extra profits of increased sales.

Feature of the display shown below is the use of delicate pastel shades (orchid, green and cream) to be in keeping with the product displayed.



Above: The merchandise vendor illustrated is designed for the smaller corner store. It is typical of counter and floor displays. This one was produced for Lever Bros.



Another Colgate display (above) features eye-catching cut-out display panel. Customers' attention is drawn to the panel, and to the complete product data below.

The large merchandise vendor below, designed for Colgate-Palmolive-Peet Co., is built to carry a complete assortment of merchandise and to sell it from all four sides of the display. The vendor is constructed so that the load rests firmly on two sturdy pedestals. Copy is slanted to make customers stop at the display. Note kick board at base of the display, designed to insure long life.





# ACTION

Just see the widely approved  
**KIEFER HANDSOME**

and you'll at once agree with the happy users!  
Streamlined in the modern manner, the Line  
delivers a constant daily production maximum.

Bottles are automatically spaced on entering  
the "BOTTOMS UP" Cleaner and then maintain  
their distance as they travel  
through all of the machines.

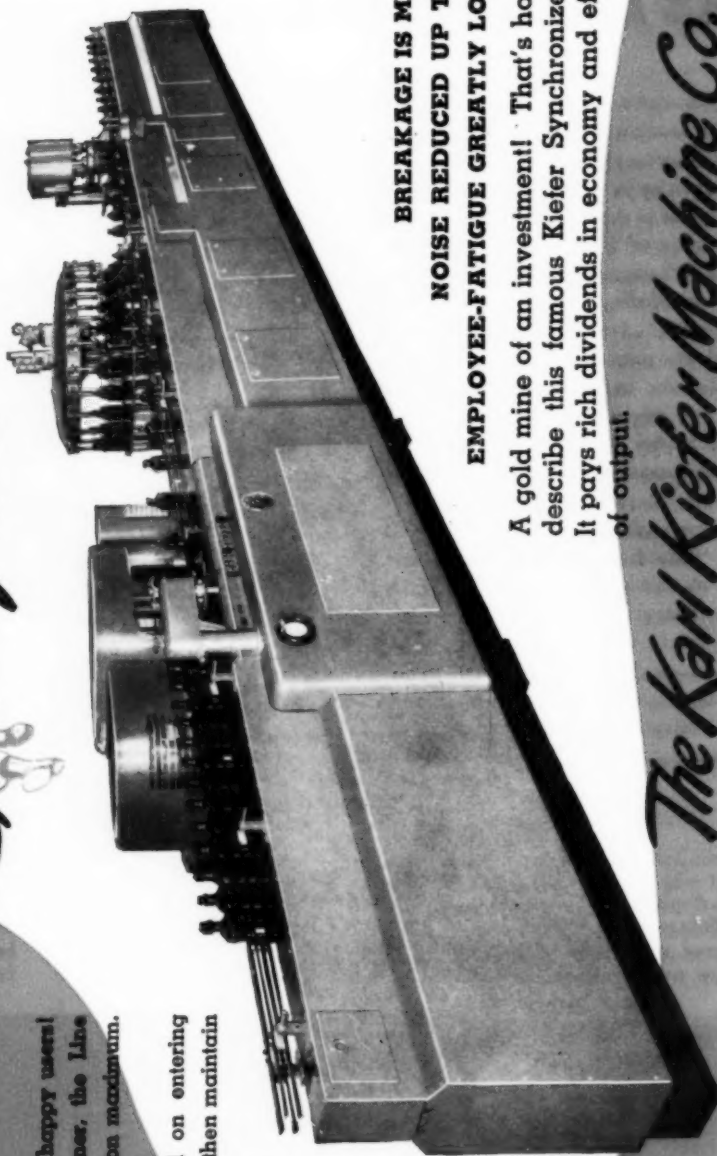
A Synchronizing transmission  
drive, powers the Line as one  
unit—

"BOTTOMS UP" CLEANER  
ROTARY VACUUM FILLER  
CAPPER

with the through  
CHAIN BELT CONVEYOR

*speaks!*

*Synchronized Line* IN MOTION



**BREAKAGE IS MINIMAL  
NOISE REDUCED UP TO 75 %  
EMPLOYEE-FATIGUE GREATLY LOWERED**

A gold mine of an investment! That's how users  
describe this famous Kiefer Synchronized Line.  
It pays rich dividends in economy and efficiency  
of output.

*The Karl Kiefer Machine Co.*

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## O'Connor and Straka Elected to C-P-P Board



MANNING O'CONNOR

The election of Manning O'Connor and J. A. Straka, both vice-presidents of the company, to the board of directors of Colgate-Palmolive-Peet Co., took place at the annual meeting in Jersey City, N. J., April 27. Mr. O'Connor, who has been with the firm since 1930, first as sales manager and later as manager, was made a vice-president in 1942. Mr. Straka, vice-president and general manager of Col-



J. A. STRAKA

gate-Palmolive-Peet Co's toilet article department, joined the firm 25 years ago. He was assigned to the foreign department in 1931 and served as general manager in Poland. When World War II broke out he returned to the United States and became general manager of the Kirkman division. In 1943, he was advanced to the position of assistant to the president and in the following year was elected vice-president.

### E. J. Chartiez Dies

Edouard J. Chartiez, 81, for many years prior to his retirement secretary of P. Barsalou Soap Co., Montreal, died April 9, in the Deaf and Dumb Institute, Montreal. At one time he was a bank and department store accountant. His wife, six sons and a daughter survive.

### Aid Soap Co. Moves

Aid Soap Manufacturing Co. recently moved its factory and office from Pittsburgh, Pa., to 475 Railroad Street, Rochester, Pa. The firm now occupies about 60,000 square feet of working space, where a full line of soap is manufactured. The company

continues to maintain a Pittsburgh office.

### CARE to Give Soap

A campaign to provide European children with soap was announced recently by CARE (Cooperative for American Remittances to Europe, Inc., New York). The campaign provides that for every two "Swan" soap wrappers sent to CARE, Boston 1, Mass., the organization will deliver a bar of "Swan" soap to needy children overseas. Lever Brothers Co., Cambridge, Mass., has agreed to donate the soap to CARE for the campaign. In announcing the soap drive, Paul Comly French, executive director of the or-

ganization, stated that "many European kids have literally never seen a cake of soap." The soap will be distributed in orphanages, DP camps, schools, hospitals and in families where soap has not been available.

### Monarch Changes Name

Monarch Soap & Chemical Co., Minneapolis, recently announced that it has changed its name to Monarch Cleaning Chemicals, Inc.

### Babbitt Aids Cancer Fund

In a unique effort to aid the New York City 1949 Cancer Fund Drive, B. T. Babbitt, Inc., maker of "Bab-O" household cleanser and other cleansers, donated the full retail price of a can of "Bab-O" sold during a two-week period of the drive for every label sent in to the fund.

### Detergents, Inc., Moves

Detergents, Inc., Columbus, O., recently moved its Pittsburgh, Pa., office from 402 Keystone Bldg. to 727 Wood St., Wilkinsburg 21, Pittsburgh.

### P&G to Expand Research

Procter & Gamble Co., Cincinnati, recently announced the acquisition of about 200 acres near Venice, O., which the company plans to use for further expansion of its basic research laboratories. Actual date for construction of buildings on the site had not been determined, officials said.

A company spokesman emphasized that no manufacturing activities or raw material processing was anticipated on the Venice plot, the buildings are to be designed for research only. Eventually, it was said, a two-story building will be erected to house modern research equipment and laboratory facilities. It was intimated that part of the land would be reoffered to Procter & Gamble employees who will work at the laboratories, to purchase

for home sites near the new installation.

J. G. Pleasants, vice-president in charge of manufacture, stated that basic research is an important factor in the continued strength of the company. "From research," he added, "some of the most important developments and basic materials have resulted in the soap and synthetic detergent fields. We feel that our scientific men will find an environment ideally suited for good research work in this new installation."

#### Cuts "Triton X-100" Price

A reduction of three cents a pound in the price of "Triton X-100," its synthetic non-ionic surface active agent, was announced early this month by Rohm & Haas Co., Philadelphia. The new price is 38 cents a pound in carload lots, f.o.b. Philadelphia.

#### SOCMA Hears McCutcheon

John W. McCutcheon, New York consulting chemist specializing in oils, fats, soaps, synthetic detergents and glycerine, was the guest speaker at the May 11 monthly luncheon meeting of the Synthetic Organic Chemical Manufacturers' Association at the Hotel Commodore, New York. He spoke on "The Economic Position of Synthetic Detergents." Mr. McCutcheon is the author of the column, "Soap Plant Observer" which appears monthly in *Soap & Sanitary Chemicals*.

The spring outing of the association will be held Tuesday, Wednesday and Thursday, June 7-9 at Shawnee Inn, Shawnee-on-Delaware, Pa. A business meeting of the association will be held the first afternoon of the meeting. The following day there will be a golf tournament, putting contest and other sports events, followed in the evening by a cocktail party, banquet and entertainment. No organized activity is planned for June 9, the final day of the meeting.

#### Synthetic Fat Study

A 14-page booklet reviewing information available on the chemical synthesis of fats was issued recently by the Food and Agriculture Organization of the United Nations. The experience of Germany in the synthesis



Charles Luckman, president of Lever Brothers Co., Cambridge, Mass. (right), newly elected president of the Association of American Soap and Glycerine Producers, Inc., discussing industry problems with G. A. Wrisley, vice-president of the Allen B. Wrisley Co., Chicago, former association president, during a recent all-day meeting of the association's board of directors at the Ambassador East Hotel in Chicago.

of fatty material is described in the booklet, which bears the title, "Synthetic Fats—Their Potential Contribution to World Food Requirements." Copies are available at 25 cents each.

#### Reilly Is Drive Chmn.

James A. Reilly of Colgate-Palmolive-Peet Co., Jersey City, N. J., was recently appointed to serve as chairman of the soap industry division of a drive to raise funds for Boys' Town for Italy. Mr. Reilly is asking that funds for the drive to aid war orphans of Italy be sent to Boys' Town for Italy, Food Industry Division, 29 Broadway, New York 6.

#### Reception for "Tide"

A reception to announce nation-wide distribution of "Tide," newest synthetic detergent made by Procter & Gamble Co., Cincinnati, was held at the Plaza Hotel, New York, April 19. At the same time, Miss Lydia Cooley, director of the home economics department at Procter & Gamble attempted to answer, for the benefit of representatives of the homemaker press present, questions housewives have been asking about the new detergent. In answer to a question as to the amount of the material to be used, the answer

was given that sudsing action is a "guide to economical, efficient usage." The use of a combination of soap with "Tide" in rotary type washing machines was recommended to avoid excessive sudsing, which is said to cut down on the washing efficiency of the detergent.

#### Soap Prices Reduced

Reductions in wholesale soap prices were announced recently by a number of soap companies, including the three major units. Procter & Gamble Co., Cincinnati, cut the wholesale price of its major household soap products by four to eight per cent. Lever Brothers Co., Cambridge, Mass., lowered wholesale soap prices on most of its major products by about six per cent, as did Colgate-Palmolive-Peet Co., Jersey City, N. J. For both Lever Brothers and Procter & Gamble, the cut was the fifth in a year.

Cuts were also announced by Kendall Manufacturing Co. of Lawrence, Mass., and by Gillam Soap Works, Fort Worth, Tex. The latter firm announced a 25 per cent reduction on its new package for "Ego" granulated soap, which was publicized in a two-color, full page advertisement in the Fort Worth Press.

### Swift Advances Lacey

F. E. Lacey, who has been head of the industrial oil department of Swift & Co., Chicago, since 1944, was recently appointed manager of the technical products plant of the company at Hammond, Ind. Mr. Lacey joined the company in 1926, shortly after his graduation from the University of Missouri. Following an initial training period, he was engaged in sales work in New York and Toronto. He returned to the general offices of the company in Chicago in 1928 and for the next 16 years was associated with the procurement and sale of fats and oils for the company. The new unit which Mr. Lacey is to manage processes fats and oils for use in soap, cosmetics and many other industries.

### Seebach Names Forster

Edwin Seebach Co., New York, recently announced the appointment of Rene Forster Co., New York, as its sole North American sales representative for Seebach perfume compounds and specialties. Rene Forster Co. will continue to handle aromatic chemicals, essential and natural oils independently under its own firm name. Effective May 1, the Forster company is making its headquarters at the Seebach address, 912-920 Broadway.

### Lifts Soda Ash Control

Removal from export control of approximately 500 separate items such as certain types of naval stores, including tall oil, soda ash, creosote and gums and resins, was announced recently by the Department of Commerce, Washington, D. C. The items may now be shipped to any destination in the world without a validated export license.

### C-P-P Earnings Lower

A decline in earnings, net profit and sales in the first quarter of 1949, as compared with the first three months of 1948, was reported recently by Colgate-Palmolive-Peet Co., Jersey City, N. J. During the first quarter of this year the company had a net income of \$3,529,888, equal to \$1.71 per common share, after payment of preferred dividends, on domestic sales of \$54,746,451, as compared with a net

income of \$3,802,884, equal to \$1.85 per common share and domestic sales of \$59,407,527 in the comparable 1948 quarter. Combined foreign and domestic sales for the first three months of 1949 totaled \$75,525,804, as compared with \$78,127,561 in the like 1948 period. The provisions for income taxes were \$2,130,447 and \$2,023,697 in 1949 and 1948, respectively. Net income from domestic operations was \$3,512,520 in 1949 and \$3,452,000, in the '48 first quarter. A sharp decline marked foreign net income in the Jan.-Mar. quarter of this year, when the figure was put at \$17,368, as against \$350,000 in the first 1948 quarter. An inventory reserve provision of \$3,000,000 was reported as of Mar. 31, 1949; the provision on that date a year ago was \$7,500,000. As of Mar. 31, 1949, Colgate-Palmolive-Peet Co. had total assets of \$105,926,218, which is slightly above the Mar. 31, 1948 figure of \$105,857,218.

### Standard Names Parkhurst

George L. Parkhurst, president of Oronite Chemical Co., San Francisco, was recently elected vice-president of Standard Oil Co. of California, of which Oronite is a subsidiary.

### Chess Advances Ness

Mary Chess, Inc., New York, recently announced the appointment of James A. Ness as vice-president in charge of plant operations. He joined the firm last August as production manager.

### With Fritzsche 25 Yrs.

Frank H. Lenz, a member of the company's shipping department, was recently inducted as a member of the 25 year club of Fritzsche Brothers, Inc., New York. He was feted at a luncheon held at the New York Athletic Club, presided over by F. H. Leonhardt, Fritzsche president.

### Selling for Phila. Quartz

The appointment of Richard D. Greenway to its sales staff was announced recently by Philadelphia Quartz Co., Philadelphia. He is covering Maryland, Virginia and North Carolina. Previously, following completion of the company's training course in silicate uses in industry, he covered eastern Pennsylvania for five months. Mr. Greenway is a graduate of Missouri University, where he received a B.S. degree in chemistry.

Newest synthetic detergent made by Procter & Gamble Co., Cincinnati, and now being test marketed in a number of areas is "Joy." Featured as a liquid dish-washing detergent, six ounces are packaged in an attractive, fluted glass bottle. Recommended usage is a capful for each dishwashing.







we never sold  
a bar of soap...

but we sure make  
soap-selling scents



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### In Wyandotte Post

Wyandotte Chemicals Corp., Wyandotte, Mich., recently announced



W. L. RIPPETEAU

the appointment of W. L. Rippeteau as manager of development for the company. He has been with the firm since 1947. His first assignment was as a contact representative for the new organic and inorganic products being produced by the company. He is a 1939 graduate of the University of Kansas. Following his graduation he joined Phillips Petroleum Co., Bartlesville, Okla., as a research and development engineer.

### Nordell P&G Oil Sales Head

Edward F. Nordell, fats and oils representative for Procter & Gamble Co., Cincinnati, in New York, was recently assigned by the company to supervise all tank and tank wagon sales of vegetable oils in metropolitan New York. He trades in vegetable oils: cottonseed, soya, peanut and coconut.

### Roubechez V.P. in Europe

Harold B. Howard, vice-president of Roubechez, Inc., New York, left April 25th for Europe for a six-week trip. While there he is visiting Brussels, Paris and Grasse, where he is devoting most of his trip interviewing essential oil manufacturers.

### Sale of Cleaners in Glass

Household cleaning materials of all kinds received special attention in a recent sale of products in glass based on the unusual merchandising theme of "Miracles in Glass" promoted by Schenberg's Super Twentieth Cen-

"Swift's Cleanser" was one of the first products to be advertised in new, three dimensional, lighted displays recently installed in a number of the larger New York City subway stations. The display, at right, is located in the Lexington Ave. subway station at Grand Central Station. The display was designed by McArthur Advertising Corp., New York.



tury Market, St. Louis. Large floor displays in the household products department featured furniture polish, liquid floor wax, ammonia, bleaches, liquid starch and other household products packed in glass. These were in addition to the regular shelf displays of the same products and such related ones as soaps, cleansers, etc. To carry out the theme still further, the entire front of the store was devoted to outstanding examples of modern glass-making science.

Glass companies assisting in the promotion included the glass container

division of Owens-Illinois Glass Co., Toledo, who provided displays of glass containers; Owens Corning Fiberglas Corp., Kimble Glass and Libbey Glass.

### Moves Charlotte Office

The removal of its Charlotte, N. C., office to 825 W. Morehead St., from 1301 W. Morehead St., was announced recently by E. F. Houghton & Co., Philadelphia. W. H. Brinkley, general sales manager, southern division, is in charge of the office which serves as a sales and service office for Houghton surface active agents.

Close-up of the display of household products at Schenberg's Super Twentieth Century Market, St. Louis, during the recent "Miracles in Glass" promotions of cleaners packed in glass.





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FRED H. UNGERER

### Ungerer Shifts Officers

F. H. Ungerer, president of Ungerer and Co., New York, since 1930, was recently elected chairman of the board at a meeting of the directors at the company's plant in Totowa, New Jersey. Kenneth G. Voorhees, executive vice-president since 1933, was elected president and treasurer at the meeting. Other changes in executive personnel include the advancement of I. H. Budd from second to first vice-president; H. B. Moore from third to second vice-president; W. H. Dunney, Jr., formerly secretary, is now third vice-president and W. A. Bush was named secretary.

Mr. Ungerer has been with the company since 1896, three years after it had been founded by his father. He became a director in 1901, and in 1930 was elected president. He was assigned the additional title of treasurer in 1936. His successor to the offices of president and treasurer, has been with the firm since 1932, being elected executive vice-president in 1933. Three years later he was named to the board, and, in 1942, was made secretary. Mr. Voorhees has been in charge of trading for the company, in addition to his administrative work, since his appointment as executive vice-president.

Mr. Budd, director of sales for Ungerer, has been with the firm since 1935. He has been connected with the essential oil industry for 31 years. The new second vice-president, H. B. Moore, has been with the concern for the past 23 years, as a sales representative and comptroller. Mr. Dunney, who



KENNETH G. VOORHEES

was elected secretary earlier this year, is a veteran of 14 years with Ungerer, and a perfume chemist of 32 years' standing. The new secretary, W. A. Bush, with the firm for the past 11 years, has been connected with the essential oil industry for 30 years.

### Lever Advances Two

The appointment of two divisional sales managers was announced recently by Lever Brothers Co., Cambridge. Robert L. Jones, for the past four years manager of the Houston, Tex., division, has been named manager of the Chicago division, which covers two-thirds of Illinois, all of Iowa, eastern Nebraska and part of Wisconsin. It is one of the firm's largest and most important divisions.

William J. Coert, field supervisor in the Chicago division, has been advanced to the post of sales manager of the Houston territory, which includes most of Texas, all of Louisiana and southern Mississippi. Mr. Jones has been with the Lever sales organization for 20 years, Mr. Coert for 15. Joining the firm as a coupon distributor in 1929, Mr. Jones advanced steadily in a succession of assignments that covered every phase of selling. He has served as general dealer service field manager at the Cambridge headquarters, assistant to the sales manager for the company's shortening product, and as general field supervisor in the Chicago and Atlanta divisions. He was made sales manager of the Houston division in 1945.

Mr. Coert joined the firm as a salesman in 1934, later becoming ter-

ritory salesman in Milwaukee. Since 1936 he has advanced to become, successively, jobbing salesman, junior sales supervisor and field supervisor.

### P & G Shifts in Texas

A. M. Wood, who has been South Dallas district sales manager since 1945 for Procter & Gamble Co., Cincinnati, was recently appointed manager of the newly established Southwestern division, with headquarters in Dallas. Previously, Mr. Wood was Boston district manager for Procter & Gamble for 15 years. J. P. D. Kaufman, formerly sales supervisor in the Louisville, Ky., area, succeeds Mr. Wood as South Dallas district sales manager.

### Boston BIMS Golf

The first golf outing of the 1949 season was held by the BIMS of Boston at Woodland Golf Club, Auburndale, Mass., May 19. Dinner followed the day's outing. Similar affairs are planned for August and September.

### Printon New Nopco Head

Thomas A. Printon, vice-president and director, was recently elected president of Nopco Chemical Co., Harrison, N. J., to succeed Charles P. Gulick, who becomes chairman of the board. Mr. Gulick has been president since 1932 and is one of the founders of the firm. Mr. Printon has been with Nopco since 1922, when he joined the firm as a salesman.

### Monsanto Man Advanced

Philip A. Singleton, manager of Monsanto Chemical Co.'s office in Washington, D. C., was recently elected a vice-president of New England Alcohol Co. of Boston, a Monsanto subsidiary.

### Former C-P-P Exec. Dies

Edward Gilmore, 64, retired general sales manager of Colgate-Palmolive-Peet Co., Jersey City, N. J. died recently, at his home in Chicago. He had retired in 1938, after having been with the firm for over 20 years. He is survived by his widow, Mrs. Ethel Gilmore and a son, Edward.

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### Lever Man AFA Judge

Frederick A. Schneller, general merchandising manager of Lever Brothers Co., Cambridge, Mass., was recently named as one of the judges for the ninth annual Advertising Club Achievement contest sponsored by the Advertising Federation of America. The awards will be announced during the A.F.A.'s annual convention in Houston, Tex., May 29-June 1.

### Butcher Atlantic Coast Rep.

Atlantic Refining Co., Philadelphia, recently appointed L. H. Butcher Co. as exclusive West Coast sales representative for packaged chemicals of its chemical products division. Major items initially involved include the "Ultrawets," a series of alkyl aryl sulfonates produced by Atlantic.

### Cut "Antarox" Prices

Price reductions of three cents a pound on non-ionic synthetic detergents in the "Antarox 'A'" series were announced early this month by Antara Products division of General Aniline & Film Corp., New York.

Two new additions to the "Antarox" line: "A-400" and "A-480," odorless, better-foaming non-ionic detergents were announced by the company at the same time.



The new "Dif" premium box (above), made by Dif Corp., Garwood, N. J., features a full-cut plastic apron, which is available to the purchaser for 25 cents and two "Dif" box tops. The premium is currently being offered to customers by a special package prominently featuring the offer on its front panel. Special point of sale material is also available to promote the offer, which is being advertised through radio, newspapers and television.

### Oronite Shifts Two

The transfer of J. T. Deane, vice-president, from New Orleans to San Francisco, where he will be in charge of all manufacturing operations was announced recently by Oronite Chemical Co., a subsidiary of Standard Oil Co. of California, San Francisco. T. I. Clausen, acting assistant to the manager, chemicals division, at California Research Corp., another Standard of California subsidiary, is transferring to Oronite. He will make his headquarters in New Orleans as general superintendent in charge of manufacturing operations at Oak Point.

### New Standard Soiled Fabric

The availability of "Standard PSC Soiled Cotton" fabric, prepared by the group at Pennsylvania State College under the supervision of Professor Pauline Beery Mack, and announced recently by Foster D. Snell, Inc., New York. With the fabric, samples stored in the open air have shown no significant change.

### Precision Opens on Coast

Precision Scientific Co., Chicago, recently announced the opening of a branch office at 582 Market St., San Francisco 4. Walter A. Blair is in charge.

The new package for "Soilax" household detergent features a metal pour spout, believed to be the first time this has been done with a packaged detergent. Formulas for product has also been changed.



A bath size cake of soap is one of the features of the new travel kit introduced recently by Jean Nate, New York. An after bath lotion in a plastic bottle and a special envelope for soap complete the unit.





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# T. G. A. Meets, Studies Problems

**A** CLOSE study of the problems facing the industry and efforts to resolve them was the outstanding theme of the discussion at the 14th annual convention of the Toilet Goods Association, held May 17-19, at the Waldorf-Astoria Hotel, New York. Other convention business included the election of officers and a meeting of the association's scientific section, on the final day of the convention.

The opening session, Tuesday morning, May 17, was devoted to the reports of the officers, counsel and director of scientific research and standards. The election of officers took place at this session. The first report was that of the president, C. A. Pennock of Hudnut Sales Co., New York. He was followed by S. L. Mayham, who presented his report as executive vice-president. Hugo Mock gave the report of the counsel, with special emphasis on the recent F.T.C. hearings on industry trade practice rules. The concluding report of the morning was that of H. D. Goulden, director of scientific research and standards. The final business of the morning was the election of officers, following which the group luncheon was held and the Charles S. Welch Award was presented by Pierre Harang, chairman of the Charles S. Welch committee.

The afternoon session began with a report of the committee on use and marketing of perfume products by J. S. Wiedhopf, president of Parfums Products, Inc., New York. The T.G.A.'s activities to have the 20 per cent excise tax removed were discussed by Miriam Gibson French, T.G.A. tax publicity director. A talk, "What Makes Women Buy," given by Harry Singer, publisher of *Media Digest*, New York, was the final feature of the first day's activities.

The Wednesday morning, May 18, session opened with a discussion of "The Washington Scene and the Toilet

Goods Industry" by Wallace Werble, editor of *F.D.C. Reports*, Washington, D. C. He was followed by Frazer V. Sinclair, president of Pope Publishing Co., New York, publishers of *Beauty Fashion*, who presented a talk entitled "A Reporter and Friend Reviews the Industry and Its Future." The Good Housekeeping film, "14-day Miracle Beauty Plan," concluded the morning session. After luncheon a closed meeting for manufacturers only was held.

The scientific section convened Thursday morning, May 19. The following papers were listed for discussion at the morning and afternoon sessions, during which a vice-chairman for the section was elected:

## Morning Session

"Use of Drugs in Cosmetics," by Erwin Di Cyan, Ph.D., of Di Cyan & Brown, New York.

"The Aging and Stability of Essential Oils and Aromatic Chemicals in Soaps and Cosmetics," by R. J. Huttleston. Schimmel & Co., New York.

"Identification of Certain Coal Tar Colors Used in Cosmetics," by Kenneth A. Freeman, Chief, Color Certification Branch, Cosmetic Division, U. S. Food and Drug Administration.

"Odor and Olfaction," by Dr. Paul G. Lauffer, George W. Luft Co., New York.

## LUNCH

## Afternoon Session

"On the Structure and Synthesis of Irons," by Dr. Yves-Rene Naves, research chemist, L. Givaudan & Co., S. A., Vernier-Geneva, and associate of the department of Chemistry of the University of Geneva.\*

"Olfactory Evaluation of Aromatic Raw Materials," by Samuel Klein. Division of Aromatic Products Research, Van Dyk & Co., Belleville, N. J.

"Beneficial and Adverse Effects of Soaps Upon Skin as Determined by Repeated Exposure Tests," by John A. Killian, Ph.D. and M. Elizabeth Marsh, Ph.D. Killian Research Laboratories, New York.

\* This paper will be read by title only and will be published in the Proceedings of the Scientific Division.

"A Discussion of Control Systems. A Laboratory Viewpoint," by P. C. Wieseman. Chief Pharmacist, Pharmaceutical Division, Laboratories of The Norwich Pharmacal Co., New York.

"By-Product Distilled Citrus Oil," by Saul A. Bell, Pharm. D. Research Project Leader, Evans Research & Development Corp., New York.

## Cosmetic Chemists Meet

Synthetic detergents in cosmetics were a highlight of the program of the semi-annual meeting of the Society of Cosmetic Chemists held May 20, at the Biltmore Hotel, New York. The all-day meeting, held in the Music Room of the Biltmore, was divided into morning and afternoon sessions with a group luncheon scheduled from 12:30 until 2:00 p.m. The first paper of the morning session, "Shampoo Formulation" was read by H. W. Zussman of Alrose Chemical Co., Providence, R. I. "The Deodorant Properties of An Alkyl Aryl Sodium Sulfonate" were discussed by the next speaker, Lawrence Flett of National Aniline Division, Allied Chemical & Dye Corp., New York. Foster Dee Snell, of Foster Dee Snell, Inc., New York, presented the next paper, "Surface Active Agents in the Cosmetics Industry" and the final paper of the morning session, "Cosmetic Functions of Synthetic Detergents," was given by Anthony M. Schwartz of Harris Laboratories, Washington, D. C.

The afternoon session opened with a paper entitled "Practical Aspects of Emulsion Formulation" by I. R. Hollenberg. "The Influence of Some Aromatic Chemicals and Essential Oils on the Stability of Cosmetic Emulsions" by S. A. Karas; "Measurement of Odors in the Cosmetics Industry" by Louis Barail; "A Simplified Method for Determining the Approximate Bacteriostatic Potency of Chemicals" by Arthur Cade of Givaudan-Delawanna, Inc., New York, and "Cosmetics from a Medical Viewpoint" by Austin Smith followed in that order.

## Eire Ends Soap Rationing

The government of Eire recently announced the end of soap rationing in Ireland.



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# D-40 DETERGENT

## DOES WONDERS FOR THE WASH

**Faster washing,** easier rinsing, effective soil removal in hard or soft water are a few of the many advantages of this superior detergent. Its powerful surface action, rapid wetting times, fast penetration always assure superb cleaning jobs. D-40 helps you discover new, more economical ways to conquer tough cleaning problems. It is an excellent cleaner by itself and the performance of other cleaning agents can be substantially improved by the addition of this product. D-40 has excellent foaming properties, maintains a high degree of stability in a wide variety of media including acid and alkaline solutions. Always ask for fast action D-40 Detergent. It's high in quality, low in cost. Call or write the Oronite office nearest you for detailed information.



A typical example of improved washing methods is the use of D-40 Detergent in the washing and scouring of sheep skins. Here D-40's powerful surface active properties and excellent detergency speed washing time, give quick penetration, complete fat removal, easier rinsing. The softness and permeability of the hides is greatly increased, resulting in improved workability in further processing. The absorption of the detergent produces an excellent handle on the fleece. So if you want to improve the wash... always choose D-40 Detergent.

## ORONITE CHEMICAL COMPANY

38 SANSOME STREET, SAN FRANCISCO 4, CALIFORNIA  
STANDARD OIL BLDG., LOS ANGELES 15, CALIFORNIA

30 ROCKEFELLER PLAZA, NEW YORK 20, NEW YORK  
600 S. MICHIGAN AVENUE, CHICAGO 5, ILLINOIS



## RAW MATERIAL

# MARKETS

As of May 6, 1949

**H**AVING declined to its lowest point since the war, and before in some cases, the fat and oil market reversed the trend during the closing days of April and made advances all along the line. Tallow, responding to demand for export, rose from  $5\frac{1}{8}$  cents to  $5\frac{7}{8}$  cents and showed signs of growing firmer. Demand increased, naturally, particularly among the smaller soapers, although the larger units were also reported active, when the price dropped to its lowest level since lean pre-war days. Coconut oil prices spruced up considerably in the last 30 days going from  $13\frac{1}{2}$  cents a pound to 16 cents. Copra prices moved upwards to \$185 a ton, Pacific Coast basis. Last month, at approximately this date, copra was quoted at \$175 a ton. Increasing a half cent a pound, as compared with the corresponding date a month ago, cottonseed is now selling for  $11\frac{1}{2}$  cents a pound. Soybean oil rose a quarter of a cent to 11 cents and corn oil moved forward from  $11\frac{1}{4}$  to 12 cents a pound. Lard prices also went to higher levels during the latter part of April and early this month. Following the general revision of fats and oils prices upwards lack of buying interest curtailed further increases, which observers of the fat and oil market feel are inevitable.

Export licenses for shipments of fats and oils, including oil content of oilseeds to European countries during the first quarter of 1949 exceeded 638 million pounds, according to a recent announcement of the Office of International Trade of the Department of Commerce, Washington, D. C. During the first quarter of 1948, export quotas for shipments of fats and oils to all countries were established at 112 million pounds. The fourth quarter, 1948, quota was increased by the Office of International Trade to 434 million

pounds, because of improvement of supplies. The first quarter, 1949, total includes 110 million pounds released to the United States Army for shipment to occupied Germany and Austria.

Fats and oils were placed under general license by the Office of International Trade early in February of this year. By that action fixed quotas are no longer established, and license applications are required only for shipments to "R group" countries of Europe and adjacent areas. No export controls of the Office of International Trade are in effect for shipments of fats and oils to other countries. The OIT pointed out that the total amount of fats and oils licensed for export to European countries during the first quarter of 1949 does not necessarily represent shipments that have or will be made. Spain, for example, has issued imports permits for only a small part of the 130 million pounds of soybean oil licensed for export to that country.

Among the fats and oils and materials having a fat content for which licenses have been issued for shipment to Europe during the first three months of 1949 are: Soap (fat content), 429,353 pounds; inedible tallow and grease, 91,448,875 pounds; edible tallow, 6,595,499 pounds; lard, 136,400,271 pounds; fatty acids, 25,907,833 pounds; fish oil, 5,433,683 pounds; flaxseed (oil content), 26,226,908 pounds; soybeans (oil content) 57,259,617 pounds; soybean oil, 198,912,095 pounds; cottonseed oil, 19,112,892 pounds; peanuts (oil content), 39,872,472 pounds; peanut oil, 25,507,512 pounds; margarine (fat content), 3,575,280 pounds and other fats and oils, 1,460,972 pounds.

The four leading commercial purchasers of inedible tallow and grease were: Italy, 34,235,917 pounds; Germany, 23,117,814 pounds; France, 11,133,230 pounds, and Belgium, 8,112,-

034 pounds. Germany, the only country listed for more than a million pounds of edible tallow via commercial procurement, was licensed to receive 4,683,541 pounds.

Listed in a recent purchase report of the Production and Marketing Administration of the U. S. Department of Agriculture, Washington, D. C., for general supply or export programs or acquired under price support operations were the following: Inedible tallow, 50,000 pounds during January of a total of 1,384,000 pounds for the first half of 1949; edible tallow, 887,000 pounds during January, which represents the entire quantity to be purchased during the first six months of this year; coconut oil, none during January, against a half-year's quota of 274,000 pounds; copra (to be purchased in the Philippines), none during January, against 32,659,200 pounds in the Jan.-July period; palm kernels (to be purchased in Portuguese W. Africa), 33,360,000 pounds purchased in January, against 52,563,560 for the first six months of 1949.

Turn-out of copra in Indonesia is reported continuing at a high rate and during March totaled 28,410 tons, as against 20,662 in the previous month and 33,755 tons for January. The 1948 monthly average was 20,187 tons. Purchases by the copra fund during March amounted to 30,654 tons. The fund was expected to buy 30,000 tons in April.

Price reductions on perfuming materials again outnumbered advances. Chinese anise oil and cassia advanced as a result of recent victories by Communist armies, which threaten producing areas. Lower prices were recorded on ocotea cymbarum, petitgrain and Haitian vetiver oil. Benzyl formate and citral were quoted lower by aromatic chemical producers.

# FIXORESINS

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Light colored fixatives which  
increase lasting properties  
without increasing costs

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**SCHIMMEL & CO., INC.**

**601 West 26th Street**

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NEW

# TRADE MARKS

**T**HE following trade-marks were published in the April issues of the *Official Gazette* of the United States Patent office in compliance with Section 6 of the Act of February 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

**Lex Fluff**—This for liquid coconut oil shampoo. Filed Sept. 6, 1946 by Combs & Lambrecht, Kansas City, Mo. Claims use since Aug. 28, 1946.

**Bugine**—This for insecticides. Filed Oct. 8, 1946 by Royal Pharmaceutical Corp., Brooklyn, N. Y. Claims use since Feb. 1890.

**Quel**—This for liquid preparations for household or industrial use having deodorant and insecticidal properties. Filed July 3, 1947 by Super-X Inc., Cleveland, O. Claims use since March 30, 1947.

**P**—This for solvents for the cleaning of metal. Filed Dec. 6, 1936 by Phillips Manufacturing Co., Chicago. Claims use since Oct. 14, 1944.

**Seal**—This for insecticides for moths, flies, and mosquitoes. Filed Aug. 28, 1945 by Seal & Co., Topeka, Kans. Claims use since Nov. 24, 1943.

**Lu-Mar**—This for liquid wax polishes. Filed May 27, 1947 by Lu-Mar Products Co., Newark, N. J. Claims use since Jan. 22, 1947.

**Sanitek**—This for soap and cleaners for floors, furniture and autos. Filed May 25, 1946 by Sanitek Products Co., Los Angeles. Claims use since Sept. 1943.

**Palm-Co-Oil**—This for toilet soap. Filed Jan. 18, 1947 by Soap Craft, Inc., Chicago. Claims use since March 1922.

**Peggy Walker**—This for shampoo. Filed Jan. 17, 1946 by United Cigar-Whelan Stores Corp., New York. Claims use since Feb. 1, 1945.

**Paris' Idol**—This for shampoos. Filed Mar. 27, 1947 by Bauer, Hunt and Parisi, Inc., Corona, N. Y. Claims use since Mar. 15, 1947.

**Halowax**—This for active ingredient for insecticides. Filed June 25, 1947 by Union Carbide and Carbon Corp., New York. Claims use since 1933.

The following trade-marks are published in compliance with section 13 (a) of the Trade-Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of \$25 must accompany each notice of opposition.

**Lan-O-Sheen**—This for cleaning compound. Filed Nov. 26, 1947 by Lan-O-Sheen, Inc., St. Paul, Minn. Claims use since Apr. 1, 1940.

**Markay**—This for soap powder. Filed Aug. 29, 1947 by Markay Products Co., Milwaukee, Wis. Claims use since 1945.

**Geronite**—This for water soluble cleanser. Filed Sept. 15, 1947 by Anderson Chemical Co., Litchfield, Minn. Claims use since July 9, 1947.

**Perma-New**—This for silver polish. Filed Nov. 13, 1947 by Estabrook Laboratories, Minneapolis. Claims use since June 1947.

**Shell**—This for dry cleaning solvents. Filed Jan. 27, 1948 by Shell Oil Co., San Francisco. Claims use since May 1930.

**Anodex**—This for dry alkaline cleansing preparations. Filed Feb. 6, 1948 by Macdermid, Inc., Waterbury, Conn. Claims use since Sept. 1938.

**Ditto**—This for liquid soap. Filed Apr. 17, 1948 by Ditto, Inc., Chicago. Claims use since Feb. 8, 1929.

**Westolite**—This for powder cleaning compound. Filed Apr. 24, 1948 by West Disinfecting Co., Long Island City, N. Y. Claims use since 1941.

**Takalab**—This for preparation for use in cleaning fabric. Filed Apr. 28, 1948 by Takamine Laboratory, Inc., Clifton, N. J. Claims use since Mar. 4, 1932.

**Hum**—This for general household cleaner. Filed June 19, 1948 by Theobald Industries, Kearny, N. J. Claims use since Jan. 22, 1948.

**Kylene**—This for soap. Filed June 19, 1948 by Estelle Wyler, Inc.,

New York. Claims use since Mar. 1, 1948.

**Sand Paper**—This for soap. Filed June 22, 1948 by Harriet Hubbard Ayer, Inc., New York. Claims use since Feb. 25, 1948.

**Naccamide**—This for mouthwash with incidental properties as a dentifrice. Filed Dec. 18, 1947 by David J. Goodfriend, Philadelphia. Claims use since Nov. 26, 1947.

**Germ-O Thane**—This for disinfectant. Filed Mar. 4, 1948 by Car-solite Corp., Maywood, Ill. Claims use since Jan. 1938.

**Tenlo**—This for wetting agent. Filed Apr. 12, 1948 by Griffin Chemical Co., San Francisco. Claims use since May 7, 1947.

**70**—This for insecticide. Filed Apr. 26, 1948 by Stauffer Chemical Co., San Francisco. Claims use since Mar. 13, 1940.

**112**—This for rat poison. Filed Apr. 27, 1948 by Master Laboratories, Beaver Falls, Pa. Claims use since July 15, 1942.

**Kil-Roy-Rat**—This for rat poison. Filed May 7, 1948 by Robert Slusser, Terre Haute, Ind. Claims use since Jan. 10, 1947.

**Ad-Ay**—This for fungicide. Filed May 25, 1948 by William R. Whitehead, Philadelphia. Claims use since Apr. 4, 1948.

**Cudasol**—This for disinfectant. Filed June 3, 1948 by Cudahy Packing Co., Chicago. Claims use since Aug. 3, 1939.

**Sav-A Tank**—This for rust inhibitor. Filed June 8, 1948 by Sudbury Laboratory, South Sudbury, Mass. Claims use since Apr. 26, 1948.

**Benlox**—This for oil shampoo. Filed June 15, 1948 by Bonhair Co., New York. Claims use since May 26, 1948.

**Z-C**—This for fungicides. Filed July 19, 1948 by Food Machinery Corp., San Jose, Calif. Claims use since Apr. 24, 1948.

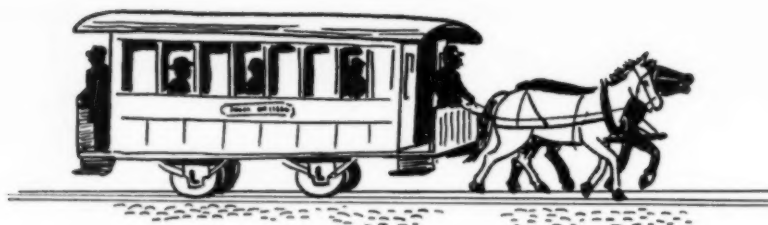
**BARRETT**—This for disinfectant bases. Filed July 20, 1948 by Allied Chemical & Dye Corp., N. Y. Claims use since March 1941.

**SWP**—This for soap and metal polishes. Filed Aug. 29, 1947 by Sherwin Williams Co., Cleveland. Claims use since 1905.

**Purr-Ge**—This for cleaning composition. Filed Sept. 13, 1947 by E. F. Drew & Co., New York. Claims use since July 11, 1947.

**Gre-Solvent**—This for deter-





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## Welch, Holme & Clark Co., Inc.

439 WEST STREET

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Warehouses in New York and Newark, N. J.

gent. Filed Oct. 20, 1947 by Utility Co., New York. Claims use since Feb. 2, 1903.

**Lan-O-Tone**—This for bar soap. Filed Nov. 19, 1947 by Lan-O-Tone Products, New York. Claims use since June 1, 1944.

**Rapid**—This for soap powder. Filed Dec. 6, 1947 by West Coast Soap Co., Oakland, Calif. Claims use since 1918.

**Beechwood**—This for polishing and buffing composition. Filed Jan. 30, 1948 by Hanson-Van Winkle-Munning Co., Matawan, N. J. Claims use since May 1, 1911.

**Trulime**—This for polishing and buffing composition. Filed Jan. 30, 1948 by Hanson-Van Winkle-Munning Co., Matawan, N. J. Claims use since Feb. 1, 1924.

**Matawan**—This for compositions for cleaning metals. Filed Jan. 30, 1948 by Hanson-Van Winkle-Munning Co., Matawan, N. J. Claims use since May 1, 1932.

**Gladella**—This for detergents. Filed Apr. 6, 1948 by Gladella Products, Burbank, California. Claims use since May 1, 1947.

**Jewel**—This for steel wool pads,

shoe white and stove cleaner. Filed Apr. 24, 1948 by Jewel Tea Co., Barrington, Ill. Claims use since May 10, 1943.

**Good Year**—This for chrome cleaner. Filed May 7, 1948 by Good-year Tire & Rubber Co., Akron, O. Claims use since 1930.

**Solv-All**—This for detergent for removing grease or dirt. Filed June 3, 1946 by Cudahy Packing Co., Chicago. Claims use since Nov. 24, 1937.

**Ne-So**—This for polishes. Filed June 18, 1948 by Ne-So Chemical Co., San Francisco. Claims use since June 1, 1928.

**Golden Note**—This for soap. Filed June 22, 1948 by Harriet Hubbard Ayer, Inc., New York. Claims use since Feb. 25, 1948.

**Christmas Card**—This for soap. Filed June 22, 1948 by Harriet Hubbard Ayer, Inc., New York. Claims use since Feb. 25, 1948.

**Rilling**—This for shampoos. Filed Dec. 13, 1947 by Rilling Co., Minneapolis. Claims use since March 1938.

**Pure-Mor**—This for general disinfectant. Filed Mar. 17, 1948 by

Hilltop Laboratories, Inc., Minneapolis. Claims use since May 1941.

**Dr. Loebel's**—This for insecticides. Filed Nov. 25, 1947 by Huntington Laboratories, Inc., Huntington, Ind. Claims use since June 15, 1921.

**Tonenia**—This for liquid shampoo. Filed Sept. 18, 1947 by Tonenia Cosmetic Co., Independence, Kans. Claims use since June 1, 1943.

**Devex W-50**—This for insecticide. Filed Oct. 23, 1947 by Westvac Chlorine Products Corp., New York. Claims use since Sept. 23, 1947.

**Triad**—This for dry cleaning and general cleaning solvents. Filed Jan. 14, 1948 by Detrex Corp., Detroit. Claims use since Apr. 3, 1931.

**Activator**—This for shampoo. Filed Jan. 15, 1948 by Ephraim & Co., Newark, N. J. Claims use since Dec. 15, 1947.

**Pin-O-Sol**—This for disinfectant. Filed Apr. 13, 1948 by Southern California Disinfecting Co., Los Angeles. Claims use since Sept. 1, 1918.

**Onyxiade**—This for disinfectant. Filed May 12, 1948 by Onyx Oil & Chemical Co., Jersey City, N. J. Claims use since Aug. 13, 1945.

PHENYL ETHYL ALCOHOL

AMYL CINNAMIC ALDEHYDE

BENZOPHENONE

BENZYL ACETATE

NEROLIN

YARA YARA

Basic raw materials for disinfectants,  
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Samples  
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**Bugmaster**—This for insecticide. Filed June 3, 1948 by Michigan Chemical Corp., St. Louis, Mich. Claims use since Nov. 2, 1936.

**Silva-Spar**—This for cream shampoo. Filed June 26, 1948 by Gordon Olds Products Co., Mystic, Conn. Claims use since Mar. 24, 1948.

**The Maid in the Bottle**—This for household and industrial cleaner. Filed Mar. 20, 1948 by Texize Chemicals, Greenville, S. C. Claims use since Aug. 31, 1947.

**Nuance**—This for soap. Filed Apr. 22, 1948 by Antoine de Paris, Inc., New York. Claims use since Nov. 17, 1943.

**Kota-Glass**—This for glass cleaner. Filed May 10, 1948 by John C. Stalfort & Sons, Baltimore. Claims use since Feb. 24, 1948.

**Dorothy Gray**—This for soap. Filed May 29, 1948 by Lehn & Fink Products Corp., Bloomfield, N. J. Claims use since 1916.

**Shampette**—This for paste shampoo. Filed Mar. 12, 1948 by Cosmart, Inc., New York. Claims use since Mar. 9, 1948.

**Enoz**—This for cleaning fluid. Filed May 6, 1948 by Diversey Corp., Chicago. Claims use since Jan. 4, 1935.

**Gunk**—This for motorcycle cleaner. Filed May 11, 1948 by Curran Corp., Lawrence, Mass. Claims use since Feb. 1948.

**Wigg's**—This for soft soap and soap powder. Filed May 17, 1948 by Wiggins Chemical Co., Cincinnati. Claims use since Apr. 1922.

**Iodex**—This for medicated soap. Filed July 13, 1948 by Menley & James, Ltd., New York. Claims use since May 19, 1922.

**Purepac**—This for toothpowder. Filed July 28, 1948 by Purepac Corp., New York. Claims use since July 1, 1925.

**Loc-Lure**—This for creme shampoo. Filed Oct. 15, 1947 by Facial Products, Inc., Chicago. Claims use since May 1945.

**Kreml**—This for shampoo. Filed Dec. 5, 1947 by R. B. Semler, New Canaan, Conn. Claims use since Aug. 15, 1947.

**MoorMaFume**—This for insecticide. Filed Jan. 23, 1948 by Moorman Manufacturing Co., Quincy, Ill. Claims use since Dec. 23, 1947.

**Tu-For-Dex**—This for weed killer. Filed Mar. 31, 1948 by Twin City Seed Co., Minneapolis. Claims use since Jan. 5, 1946.

**D-Leet**—This for toxicants for use in making insecticides. Filed May 24, 1948 by Monsanto Chemical Co., St. Louis. Claims use since May 5, 1948.

**Penclor**—This for insecticides. Filed May 27, 1948 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since July 18, 1947.

**South Seas**—This for bubble bath preparation. Filed July 28, 1948 by Julius V. Madsen Co., Glendale, Calif. Claims use since Apr. 20, 1948.

**Handie Creme**—This for waterless cleaner. Filed May 20, 1948 by E. J. Hemphill Co., Long Beach, Calif. Claims use since Nov. 15, 1938.

**Dish-Kleen**—This for dishwashing machines. Filed July 5, 1947 by Fischer Industries, Cincinnati. Claims use since Jan. 1, 1940.

**Chanel**—This for soap. Filed Feb. 26, 1948 by Chanel, Inc., New York. Claims use since Jan. 1, 1921.

**Dun-Rite**—This for detergent and degreasing agent. Filed Mar. 2, 1948 by Osos Manufacturing Co., New York. Claims use since Nov. 1, 1947.

**Gill's**—This for soap. Filed May 25, 1948 by Thomas Gill Soap Co., Brooklyn. Claims use since Sept. 15, 1915.

# MIXING

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This Lukenweld Steel Drier Roll was put to work early in 1934 on a paper machine at Downingtown Paper Company, in Downingtown Pennsylvania.

## This Lukenweld Steel Drier Roll has stayed round through 14 years of service

Recently removed for the repair of a worn journal caused by faulty lubrication, this 14-year-old roll gave Downingtown Paper Company's engineers an opportunity to check every detail. Their findings confirmed these facts, similarly proved by previous examinations of dozens of other Lukenweld Rolls:

**STABLE DIMENSIONS.** Although in use on a paper machine ever since 1934, this 42" Lukenweld Steel Drier Roll is still round to within a tolerance of 0.004". (The machining tolerance was  $\pm 0.005$ ".) The tolerance has scarcely changed in over 14 years.

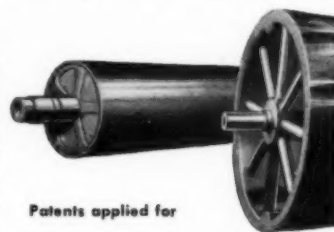
**LONG-LIVED.** On the interior surfaces of the chamber in which steam circulates, there were no evidences of corrosion.

**STRONG AND SAFE.** After the journal was repaired, this Lukenweld Roll was ready to go back

to work, sound as the day it was installed 14 years ago.

Hundreds of Lukenweld Jacketed Steel Drier Rolls, at work in various industries, have proved they dry faster, better and safer. *Faster* because of reduced wall thickness and higher efficiency. *Better* because surface temperatures are even and constant. *Safer* because of their welded steel construction—steam pressures as high as 350 psi are permissible.

For Bulletin 358 giving data on drier rolls, or for help on complete machines, write Lukenweld, Division of Lukens Steel Company, 446 Lukens Building, Coatesville, Penna.



Patents applied for



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# BIDS

## AND AWARDS

### Scouring Powder Bids

The following bids were received on an unspecified quantity of scouring powder in a recent opening for miscellaneous supplies by the Federal Bureau of Supplies, U. S. Treasury Department, Washington, D. C.: G. H. Packwood Co., St. Louis, 7 cents; Tesco Chemicals, Atlanta, Ga., 3.05 cents; Procter & Gamble Distributing Co., Cincinnati, 4.69 cents in 350 pound barrels; Phipps Products Co., Boston, 5.35 cents; Haviland Products Co., Grand Rapids, Mich., 6.3 cents; Dickson & Munro Sales Co., San Francisco, 5 cents; Gamlen Chemical Co., San Francisco, 5.2 cents; Chemical Manufacturing & Distributing Co., Easton, Pa., 2.85 cents; Puritan Chemical Co., Atlanta, 4.08 cents; Day & Frick, Philadelphia, 2.8 cents, packed in fiber drums, 50,000 pounds only; Cudahy Packing Co., Chicago, 3.5 cents; American Soap & Washoline Co., Cohoes, N. Y., 2.64 cents; Mackenzie Laboratories, Philadelphia, 4 cents; Imperial Products Co., Philadelphia, 3.05 cents and Apex Alkali Products Co., Philadelphia, 5.9 cents in 300 pound drums.

### Typewriter Cleaner Bids

In a recent opening for miscellaneous supplies by the Bureau of Federal Supplies, Treasury Department, Washington, D. C., the following bids were received on an unspecified quantity of typewriter type cleaner: American Writing Ink Co., Boston, 11.73 cents; Dicol Chemical Co., Mount Vernon, N. Y., 10.75 cents; Imperial Products Co., Philadelphia, 9.9 cents and Walter F. Gies Co., Crownsville, Md., 14 cents.

### USDA DDT Bids

In a recent opening for miscellaneous supplies by the U. S. Department of Agriculture, Washington, D. C., the following bids were received on an unspecified quantity of 50 per cent wettable DDT powder: California Spray Chemical Co., Richmond, Calif., 24.7 cents, all items;

E. I. du Pont de Nemours & Co., Wilmington, Del., 24.75 cents, all items; Niagara Food Machinery Corp., Littleport, N. Y., 24.75 cents, all items; Pennsylvania Salt Manufacturing Co., Philadelphia, 24.75 cents, all except 2.

### Liquid Soap Bids

Among the bids received on 100 drums (5,500 gallons) of liquid soap in a recent opening for miscellaneous supplies by the Government Printing Office, Washington, D. C., were those of: Colgate-Palmolive-Peet Co., Jersey City, N. J., 56.1 cents a gallon; United Sanitary Chemicals Co., Baltimore, 31.5 cents; Peck's Products Co., St. Louis, 36 cents; Harley Soap Co., Philadelphia, 31.5 cents; R. M. Hollingshead Corp., Camden, N. J., 72 cents; Lanair Chemical Corp., Chicago, 40 cents; Crystal Soap & Chemical Co., Philadelphia, 24.8 cents, plus \$5 deposit on drum; Tesco Chemicals, Inc., Atlanta, Ga., 47 cents; Joseph E. Frankle Co., Philadelphia, 38 cents; Trio Chemical Works, Brooklyn, 32 cents; Fischer Industries, Cincinnati, 60.5 cents; Peerless Chemical Co., New York, 33 cents, plus \$5 deposit on drum; Unity Sanitary Supply Co., New York, 55 cents; E. F. Drew & Co., New York, 46.9 cents; Sanitary Soap Co., Paterson, N. J.; Davies-Young Soap Co., Dayton, O., 47 cents; Britest, Inc., New York, 28.8 cents; Curley Co., Boston, 28.9 cents and Chicago Sanitary Products Co., Chicago, 40 cents.

### Treas. Floor Wax Bids

Bids on an unspecified quantity of floor wax were received from the following in a recent opening for miscellaneous supplies by the Federal Bureau of Supply, U. S. Treasury Department, Washington, D. C.: Harley Soap Co., Philadelphia, \$1.09; Ches-White Co., Baltimore, 61 cents; Penetone Co., Tenafly, N. J., 65 cents; New Jersey Chemical Co., Lyndhurst, N. J., \$1.14; W. H. Vale & Sons, Kansas City, 82 cents; Oil Specialties & Refining Co., Brooklyn, 65.7 cents;

S. C. Johnson & Son, Racine, Wis., \$1.44; Crystal Soap & Chemical Co., Philadelphia, \$1.50; Industrial Soap Co., St. Louis, \$1.50; Buckingham Wax Co., Long Island City, N. Y., 61.8 cents; Windsor Wax Co., Hoboken, N. J., 57 cents; Swan Co., Weston, Mass., \$1.25; Lucas Chemical Co., Detroit, \$1.85; Twin City Shellac Co., Brooklyn, 70 cents; R. M. Hollingshead Corp., Camden, N. J., 69 cents; Joseph E. Frankle Co., Philadelphia, 63 cents; Trio Chemical Works, Brooklyn, 54 cents; Gold Seal Co., Bismarck, N. D., \$8.84 per 5-gallon can; Continental Car-Na-Var Corp., Washington, 70 cents; Wilbert Products Co., New York, \$1.09; Uncle Sam Chemical Co., New York, 59 cents; Selig Co., Atlanta, 95 cents; Huntington Laboratories, Huntington, Ind., \$1.50; Fuller Brush Co., Hartford, Conn., \$1.18.

### Detergent Patent

A detergent composition is covered consisting of a water-soluble salt of an alkyl aryl sulfonic acid and 40-65 per cent of inorganic sulfate, all in the form of a mass of separate, approximately globular, hollow particles. At least 85 per cent passes through a 20-mesh screen but not a 60-mesh screen. The bulk density is 0.07-0.15. P. T. Zizinia and T. L. McKenna, to Natl. Aniline & Chem. Co., Inc., Canadian Patent No. 454,937.

### Producing Fatty Alcohols

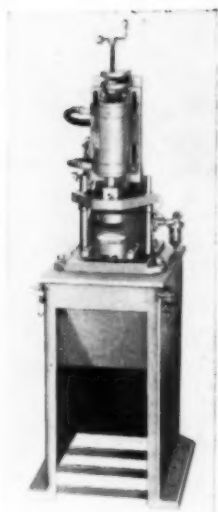
Production of fatty alcohols by sodium reduction is a process which has received a great deal of study. The future of the procedure should be assured by its peculiar virtues. It offers a method for production of alcohols of any desired chain length or degree of unsaturation if the corresponding esters are available, while the high-pressure process is economical only for production of saturated alcohols. The only major commercial market for fatty alcohols at present is in the manufacture of synthetic detergents. However, it is possible that esters suitable as plasticizers may prove useful. M. L. Kastens and H. Peddicord, *Ind. Eng. Chem.* 41, 438-46 (1949).



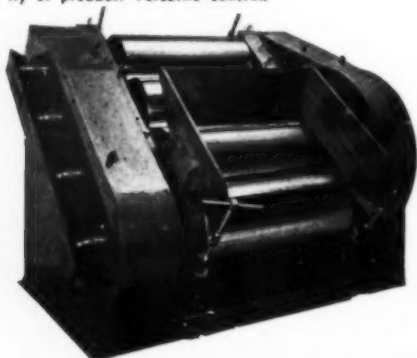
# No Long Waits

## FOR DELIVERY OF MUCH NEEDED

# HOUCHIN SOAP MACHINES



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# HOUCHIN

MACHINERY COMPANY, INC.

SIXTH AND VAN WINKLE AVENUES

HAWTHORNE, NEW JERSEY

# PRODUCTION SECTION

## Soapmaking by the Monsavon Process

**T**HE French process, known as the Monsavon process, is in operation in a plant which turns out two tons of soap per hour. The plant can accomplish in hours what the open kettle plant takes days and nights to do.

Economy at the expense of quality is valueless. The Monsavon plant will produce a better colored soap from the same raw materials, than could be made in the open kettle. However, bleaching may still be necessary, preferably of the oils and fats before they enter the process. One of the features of the plant is that an extremely large proportion of all organic and inorganic impurities is removed in the spent lye, much more than from an open soap kettle. This is made possible by the intimate and efficient washing of the soap, also by the fact that spent or half-spent lyes are never returned to the plant.

Any quality of oil or fat containing a high or a low percentage of free fatty acids or admixed rosin may be used. Probably the best way to add the rosin is to introduce it at the last wash in the washing tower as rosin soap. Full saponification is always obtained; it is as perfect as it is possible to make it, and shows a marked improvement over the kettle method.

The ease with which the quality of "fit" can be controlled must be seen to be believed. Any type of fit can be set: very fine, medium, or coarse; the control of the setting is so simple that any workman might be taught the whole range of control in less than 30 minutes. Also the type of fit can be changed in a few minutes.

The percentage of free caustic is always under control, and may be

anything from nil to 0.05 per cent  $\text{Na}_2\text{O}$  as required. Similarly, the salt content of the soap varies within normal limits, and generally is rather less than that in soap made in the open kettle, from the same materials.

### Units of Process

**T**HREE main units are necessary. One is the homogenizer, in which the oils and fats meet the correct proportion of caustic soda solution and are instantly saponified. The next is the washing tower, which at its base receives the soap from the homogenizer, and brine solution at the top. The soap and lye enter into a counter current, the soap slowly rising by reason of its lighter density, with the brine taking a downward course. Vigorous mixing of soap and brine takes place at four separate stages in the tower, so that after the last wash, at the top of the tower, the soap is almost completely freed of its glycerine, and the brine, now spent lye, at the bottom of the tower contains all of the glycerine it has removed from the soap. The spent lye is drawn off at the bottom for treatment in the glycerine department. The soap leaving the top of the tower is continuously fitted by the addition of hot water.

The fitted soap passes into the fitting tank, in which it is allowed to settle. After about 10 hours, neat soap may be continuously returned to the upper part of the washer.

### Advantages of Process

**A**N IMPORTANT fuel saving is made, although it is difficult to assess the value of this, since so much depends on the country in which the plant is operated. The Monsavon plant

is working on a soap to lye ratio of 1:0.34. This 0.34 ton of spent lye per ton of soap registers a great improvement on the ratio of the open kettle. This affords a steam saving in the glycerine-evaporating plant. It is possible to vary the soap to lye ratio between 1:0.45 to 1:0.20, according to the percentage of glycerol content of the fats, in order to produce a spent lye of more or less constant glycerol content, say 16 per cent. Anything above this figure offers very little saving in steam in evaporation, while to aim for a higher concentration may decrease the ability of the washing plant to wash the soap down to the lowest possible glycerine content.

The method saves space. A plant capable of producing two tons of 63 per cent fatty-acid soap per hour occupies a space little more than that occupied by a soap kettle 15 feet x 15 feet. Glycerine recovery is 90-95 per cent, according to the percentage of glycerol in the oils and fats, and the particular soap to lye ratio used.

Although the claim is made that there is a saving in process labor, this is difficult to substantiate because of variation in the working conditions in different factories. It would seem that the greatest economy, if any, should be enjoyed in the works of small rather than large plants, in terms of incidental labor for handling salt, rosin, etc.

One advantage is the extreme flexibility of the process. The plant may be shut down at any time, left for an indefinite period, and then restarted without any withdrawal of soap or lye in the process. Thus, one, two, or three shifts may be employed.

The plant may be switched

# The Filtrol Corporation

## announces

### ITS TWO NEW SUPERIOR ACTIVATED DECOLORIZING ADSORBENTS FOR THE VEGETABLE AND ANIMAL OIL INDUSTRY

## neutrol "e"

### PROPERTIES

Physical State	Light gray powder
Mesh (T-200) (%)	93-95
pH (Approx.)*	4
Keeping Quality in Storage	Stable
Effect on F.F.A. Development	Negligible— not over 0.05% rise under normal contacting conditions.
Effect on Press Cloths	Negligible
Decolorizing Power	Approx. 37% greater than Special Filtrol

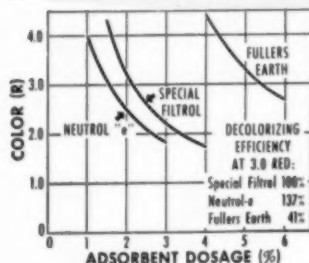
\*on slurry

### APPLICATIONS

Babassu Oil	Oleo Stock
Castor Oil	Olive Oil
Coco Butter	Palm Kernel Oil
Coconut Oil	Peanut Oil
Corn Oil	Rapeseed Oil
Cottonseed Oil	Rendered Pork Fat
Fish Liver Oil	Sardine Oil
Herring Oil	Sesame Oil
Lard	Soybean Oil
Menhaden Oil	Sunflower Oil
Oleo Oil	Used Frying Fat
Oleo Stearine	Whale Oil

### SPECIFIC ADVANTAGES

High Decolorizing Power, resulting in savings of:  
 Oil retained in press cake  
 Labor-press handling, trucking, etc.  
 Storage space  
 Freight  
 Cake disposal  
 Press requirements  
 Low free fatty acid rise  
 Negligible deterioration of filter press cloths



TYPICAL DECOLORIZING  
EFFICIENCY OF NEUTROL-E  
ON SOYBEAN OIL

Know more about Filtrol—informative literature on Filtrol's applications in the fatty oil industry sent upon request.



# Filtrol®

## CORPORATION

General Offices: 634 South Spring Street, Los Angeles 14, California  
 Plants: Vernon, California and Jackson, Mississippi

## neutrol "i"

### PROPERTIES

Physical State	Light gray powder
Mesh (T-200) (%)	99.0% (Min.)
pH (Approx.)*	3
Keeping Quality in Storage	Stable
Effect on F.F.A. Development	Slight—approx. 0.20% rise under normal contacting conditions
Effect on Press Cloths	Slight
Decolorizing Power	Approx. 42% greater than Special Filtrol

\*on slurry

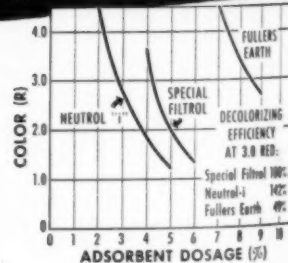
### APPLICATIONS

Beeswax	Palm Oil
Candelilla Wax	Perilla Oil
Carnauba Wax	Red Oil
Grease	Stearic Acid
Linolein	Tall Oil
Lard Oil (Inedible)	Tallow
Linseed Oil	Tallow Oil
Oiticica Oil	Tung Oil

(Also on Neutrol-E applications where minimum free fatty acid rise is unnecessary)

### SPECIFIC ADVANTAGES

High Decolorizing power, resulting in savings of:  
 Oil retained in press cake  
 Labor—press handling, trucking, etc.  
 Storage Space  
 Freight  
 Cake Disposal  
 Press Requirements



TYPICAL DECOLORIZING  
EFFICIENCY OF NEUTROL-I  
ON TALLOW



from one quality of soap to another in one hour. To change from toilet soap to household soap, the saponifier is stopped; in 30 minutes the crude soap tank is emptied and ready to receive the household soap. Meanwhile, the last of the toilet soap is passing through the washing tower to the fitting tank. This requires one hour, and before this, the saponifier is started up on household soap and the crude soap tank commences to fill up. When all of the toilet base has left the washing tower, the crude household soap is passed in, and in one hour or less the soap leaves the top of the washer in a fitted condition.

The amount of nigre left over after a run on one particular soap is so small in relation to the volume of soap completed—not more than five tons

after a run through of 250 tons of soap, for example—that it presents little difficulty. It may be kept warm until the same quality is again processed, or it may be taken into the following quality and so be used up at once. Generally speaking, the nigre is only slightly darker in color than the soap from which it has settled. This results from the fact that metallic contamination is considerably reduced on account of speedy processing, and also because steam is not injected. Also prolonged boiling with strong alkali is avoided, which might break down impurities in the oils.

The conclusion is that most of the claims made for the process are reasonably valid, based on direct observation. E. T. Webb, *Soap, Perfumery, Cosmetics* 22, 150-3 (1949).

## Shaving Cream Manufacture

**S**HAVING creams based on soap have a marked tendency to harden, and so require special precautions in manufacture. A basic formula is the following:

Ingredients	Parts by wt.
Stearin .....	1500
Peanut oil .....	500
Cochin coconut oil.....	700
Caustic potash, 38° Be.....	1601
Water .....	1600

First saponify the coconut oil with 493 parts of the caustic potash solution. When the paste is smooth, add the stearin and peanut oil and heat with stirring until the soap is completely dissolved in the fatty mixture. Keep warm, and saponify with the balance of caustic potash diluted with the amount of water in the formula. When saponification is complete, check the alkalinity carefully, and if necessary, neutralize with melted stearin. If the cream is too stiff, add warm water, or preferably a salt solution as described below.

Let the cream stand for 12 hours, then knead energetically, preferably in a milling machine. Add perfume at this stage. Hold in a suitable large container for about eight days, with stirring from time to time. This should result in a smooth texture. If

the cream becomes too thick, the stiffness can be reduced by dilution with a salt solution. Alkaline salts should be avoided for this; suitable solutions are as follows:

	Parts by wt.
1. Potassium chloride .....	10
Potassium sulfate .....	2
Water .....	100
2. White sugar .....	20
Potassium chloride .....	12
Water .....	100
3. Potassium chloride .....	10
Potassium carbonate .....	12
Water .....	100
4. Potassium chloride .....	15
Water .....	100

Although the majority of formulas in the literature contain glycerine, it is better omitted, since glycerine will sometimes cause irritation on the skin when it is particularly sensitive, as it would be after shaving. For emollient purposes, glycol, sugar, mannitol, or sorbitol, are excellent ingredients. A carboxy methyl cellulose paste may also be added. A small amount of petroleum jelly, lanolin, or cold cream, may also be added if desired. These facilitate softening of the hair. On an average such additions should be about three per cent by weight. Up to five per cent can be used without interfer-

ing with profuse foam formation. Fred Winter, *Soap* (South India) 1, 11-13 (1948).

### Glass Cleaner Composition

Analysis of several glass-cleaning preparations shows that they may be based on (1) an organic solvent, (2) an alcoholic solution, (3) an emulsion, or (4) a synthetic detergent solution. Examples of these are the following:

	%
1. Kerosene .....	65
Carbon tetrachloride .....	35
2. Isopropyl alcohol .....	28
Soap .....	1
Whiting .....	7
Water, to make.....	100
Color and perfume .....	
3. Sodium soap .....	1
Sodium bicarbonate .....	9
Kerosene .....	14
Water, to make.....	100
4. Soda ash .....	4.8
Sulfated fatty alcohol.....	8
Water, to make.....	100

In terms of per cent, liquids are measured by volume, solids, including soap, alkaline salts, and abrasive, by weight to volume. Ammonia may also be used to make the solution or emulsion alkaline. Abrasives can be added to the various types of formulas. These should not be too harsh, otherwise they will scratch the glass. Color and perfume are added according to the individual idea of the compounder. Water should be soft or distilled.

A glass-polishing cloth can be prepared by impregnation of a soft fabric such as flannel, with the following:

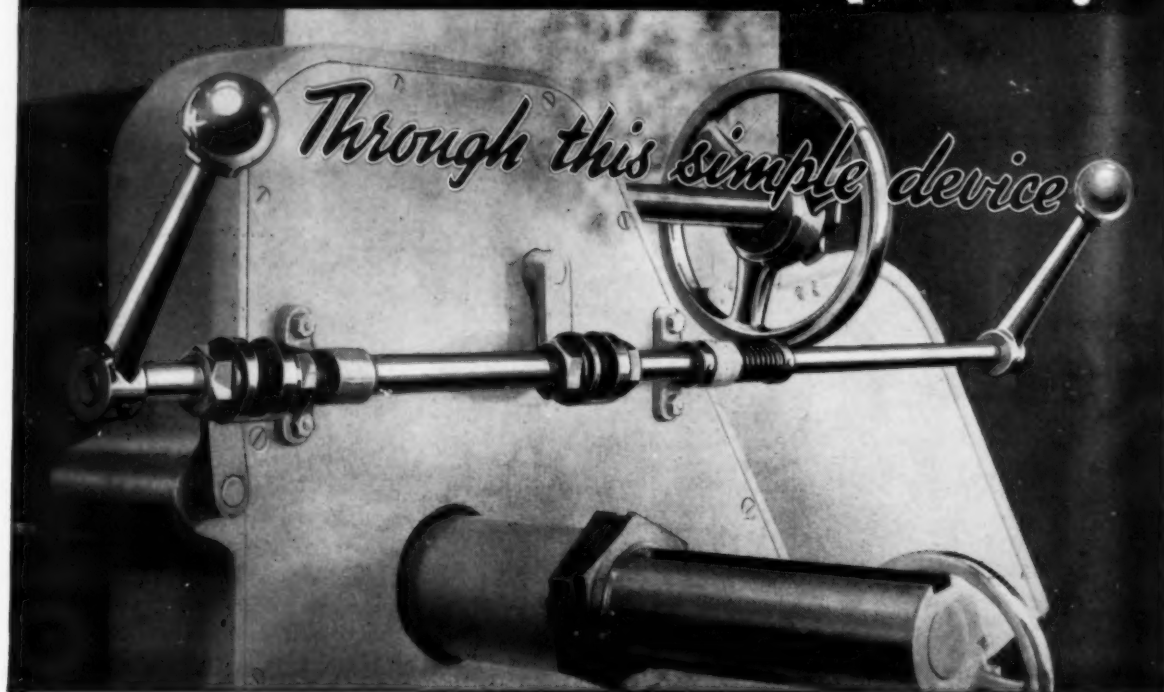
	%
Castor oil soap, 30% .....	50
Glycerine .....	25
Sulfonated castor oil.....	25

The preparations should be tested for reasonably rapid drying, non-smearing, and efficient polishing, before a final formula is decided on. G. V. James, *Soap, Perfumery, Cosmetics* 22, 149 (1949).

### Soybean Oil Treatment

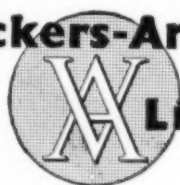
The impurities which cause reversion characteristics to develop in oils such as soybean, are removed by mixing the oil with activated magnesium oxide. W. W. Moyer and R. A. Marmor, to A. E. Staley Manufacturing Co. U. S. Patent No. 2,454,937.

# 3 cwts MORE SOAP per day



One of many excellent features to be found on the Vickers-Armstrongs toilet soap mill, the inter-connected scraper mechanism saves both time and fatigue. It is fitted on all double hopper mills. Just a flick of the lever from front or rear of the machine and both scrapers are actuated simultaneously. Operation is simplified, wear and tear on the operators' hands is greatly reduced and considerable time is saved between millings. It is reliably estimated that this device increases production by 5%-equivalent to 3 cwts. per day on the large size mill.

## Vickers-Armstrongs



## Limited

VICKERS HOUSE • BROADWAY • LONDON ENGLAND

O.B.T. 62

# Spray-drying Washing Powders

**I**N A system of spray-drying which has been evolved in Denmark, the essential feature is an atomizer wheel which reduces the liquid under treatment to minute particles of almost uniform size, thus permitting gentle drying at comparatively low temperatures. The system, developed by Niro Atomizer Ltd. of Copenhagen, is now in use in many parts of the world.

## Washing Powder Preparation

**N**O AIR heater is necessary for the production of washing powder. The atomizer is fed with a mixture of soda ash, water, and varying amounts of soap, trisodium phosphate, water-glass, etc. Soda ash takes up 10 molecules of water and crystallizes at a temperature below about 33° C., forming a decahydrate. The mixture fed to the atomizer, therefore, must have at least this temperature, and what happens during the atomization is a *spray-cooling* process. Each droplet solidifies under the influence of the cold air going in, and forms a particle of washing powder. The pneumatic transport system ensures that the crystallization is entirely finished before the powder is stored in the washing-powder storage sections of the factory. In other words, no hard lumps or blocks are formed.

A washing-powder plant may have a very large capacity. The plant in Copenhagen produces about six tons per hour, at an outdoor temperature of about 10° C. In hot weather the capacity declines, and if the outdoor temperature is above 25° C., artificial cooling of the air must be resorted to. In the tropics, it is not possible to produce washing powder by spray-crystallization.

The capacity of a given plant, whether used for spray-cooling washing powder or for drying soap, producing a powder with about 80 per cent of fatty acids from fluid soap with about 60 per cent of fatty acids, is about the same. Thus, a soap and detergent factory may use the same equipment for two entirely different purposes.

When used for drying soap, the Niro plant has an evaporation capacity of about 4,500 pounds per hour. C. Bergsøe, *Manufacturing Chemist* 20, 72-5 (1949)

## British Synthetics

According to British standards, synthetic detergent products claimed to be suitable for general household use, including the washing of woollens and delicate fabrics, should contain not less than seven to eight per cent of concentrated active detergent in the form of some sulfated material such as sulfated fatty alcohol. Not more than 30 per cent of strong alkaline salt should be present, and the pH should not exceed 10.2. Products claimed to be suitable for dishwashing and scrubbing only, should have an active detergent content of not less than 2.5 per cent.

Analysis of a British commercial powdered cleaner of the better class is as follows:

Ingredients	%
Synthetic detergent	22.8
Sodium bicarbonate	3.0
Sodium sulfate	44.0
Sodium metaphosphate	20.9
Moisture	9.5

The product was pleasantly perfumed and gave a pH of 7.4. The detergent was believed to be an alkyl aryl sulfonate. G. V. James, *Soap, Perfumery, Cosmetics* 22, 272 (1949).

## Mechanism of Fat Splitting

Splitting reactions in the autoclave and in the Twitchell process function according to the same mechanism. The reaction is chiefly homogeneous and is carried out in the oil phase, under the influence of the water dissolved in this phase, activated by hydrogen ions. The heterogeneous hydrolysis in the interface takes place only in the initial stage. Its speed is low compared with that of the homogeneous reaction.

The reagents of both processes act similarly, by dissolving in the oil phase and increasing the amount of water which dissolves in it, also by

activating the water with the liberation of hydrogen ions. The requirements for a good reagent are strong solubility in fats and low solubility in water, and the presence of groups in the molecule which are strongly hydrated.

The rate of hydrolysis increases with temperature and the amount of reagent. It also depends on the nature of the reagent. The reaction limit depends exclusively on the ratio of fat to water, and is greater when the proportion of water increases. It is independent of temperature and of the kind or amount of reagent used. L. Lascaray, *Ind. Eng. Chem.* 41, 786-90 (1949).

## Soda Silicate as Builder

All of the alkaline salts studied except borax, decreased the amount of soaps required to form permanent suds in hard water when the carbon chain was greater than 14. Some silicates showed peculiar advantages with the high-molecular weight soaps, while only the polyphosphates gave any reduction with low-molecular weight soaps.

The silicates usually increased in value with decreasing silicon dioxide to sodium oxide ratio. In some cases the intermediate ratios of 2.0 and 2.4 were more effective than 1.6. Both silicates and phosphates may be employed to prevent the formation of hard lime-soap curds. The adverse effect of caustic soda and soda ash was not as evident with soaps of lower molecular weight. The dispersion by 2.0 and 2.4-silicon dioxide to sodium oxide ratio silicates was noticeable.

The results indicate that a rigorous study of the additive effect of individual constituent soaps on minimum suds formation in hard water should be made. C. H. Dedrick and J. H. Wills, *Ind. Eng. Chem.* 41, 575-81 (1949).

## Sulfonation Products

Sulfonation of cyclohexyl tetralin and similar compounds yields surface-active compounds useful as detergents and emulsifiers for hydrocarbons. H. Schindler, to Pure Oil Co. U. S. Patent No. 2,455,811.



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SYNTHETIC DETERGENTS • GLYCOLS  
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE  
PROPYLENE DICHLORIDE • CHLOROETHERS  
AROMATIC SULFONIC ACID DERIVATIVES  
OTHER ORGANIC AND INORGANIC CHEMICALS

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By E. G. THOMSEN, Ph.D.

**L**AST month we reviewed the use of hand trucks and wheel trucks for handling materials. In this discussion we will consider, in some detail, the use of lift, pallet and fork trucks, as well as other equipment for moving material.

The main purpose of lift, pallet and fork trucks is to eliminate the re-handling of loads and to enable one truck to be used frequently without being confined to a single load. Skids or platforms are used with the lift truck. Specially built pallets are used with the pallet truck. The fork truck, a fairly recent development, eliminates the need for pallets and skids, requiring only heavy cardboard separators.

The lift truck handles loads on skid type platforms which rest on the floor. The skid is raised about 10" above the floor level. Platform supports, wider than the truck, are made of wood or have wooden tops supported by suitable wooden or iron frames. These skids are somewhat higher than the lift truck, which can be pushed under the load. A lever handle on the truck raises the loaded platform, locks itself at the highest point and permits sufficient clearance to move the skid. After the load has been transported to the desired location, a foot release slowly lowers the platform to the floor. The truck frame sinks below the skid's bottom and may be easily withdrawn. Lift trucks have been used for many years. Heavy loads, such as flat paper, frequently are loaded by lift trucks directly into freight cars or trucks. In some cases they are combined with a lifting device so that the load may be elevated several feet if desired. One drawback to the use of these, as well as pallet trucks, is that the empty skids or pallets require considerable floor space for stacking when not in use. Wide aisles are also required to accommodate lift or pallet trucks.

Pallet trucks are an improve-

ment on lift or skid trucks. Pallets consist of flat crates formed by strong boards attached to a frame made by three 2" x 4" scantlings. The fork of



DR. THOMSEN

the truck lifts the loaded pallet with prongs that enter the spaces between the boards. Since pallets are flat on both sides and the load is quite evenly distributed, one pallet may be set on top of the other. Thus it is possible to stack goods higher than on lift truck skids and, at the same time, eliminate the use of racks required at times on platforms or skids when goods are piled high.

To facilitate the loading of pallets from conveyor lines, an automatic machine that assembles, positions and stacks cartons on pallets is available. Such packages may enter the conveyor line at any speed. If they arrive too fast they are held back by switches on the conveyor feed. This pallet loader stacks up to 68" in height, piles any number of tiers in a variety of combinations, is equipped with a pallet storage compartment to accommodate an hour's run and permits fork lift trucks to deliver the pallets directly into the storage compartment.

In recent years "push pull" devices have been added to lift trucks. These grab the loads which have been

piled on heavy cardboard sheets of suitable length and width and pull them onto the fork trucks. This method eliminates platforms and pallets. When goods are shipped by freight it makes the pallets unnecessary for palletized shipments are an important cost problem. Railroads also charge the same freight rate for pallets as for the merchandise carried on them. In many cases this carrying charge equals the savings from palletizing. Variations of these grab devices include grippers and scoops that may be interchanged quickly on fork trucks.

When commodities are to be moved considerable distances motorized trucks, tractors and jitneys find wide application. They are used in various ways such as for handling skids and pallets or for stacking operations. Wide aisles and large, heavy elevators are necessary to manipulate jitneys properly. A disadvantage of the jitney is that during loading and unloading it, the machine is idle and the operator's time is lost. This may be eliminated by using the truck and train system. In this way several trucks are coupled one to the other and the jitney or small tractor transports the entire load. For the use of such equipment a one story building, preferably with high ceilings, is advisable.

Conveyor systems for handling goods are used in a large number of plants. They are best adapted to loads which are rigid and of uniform size. Roller conveyors in sections for example, afford a cheap method of transporting loads from one point to another. These sections may be moved easily from one location to another. Usually no power is required, as they operate by gravity. In multi-story buildings which provide gravity fall they are more desirable than trucks. Spiral chutes are an advantage in many cases. Belt or apron conveyors are at times more desirable than roller conveyors, especially where a variety of shapes and weights of materials or soft products are to be handled. It is not an infrequent occurrence to find the wrong type of conveyor handling loads. A careful analysis of the work to be done in cooperation with conveyor manufacturers is advisable at all times.

# Cowles CHEMICALS

## DRYMET\*

### The Economical Detergent Silicate

Cowles DRYMET, anhydrous sodium metasilicate, is the most highly concentrated form of sodium metasilicate available. It is more economical to use, on the basis of both  $\text{Na}_2\text{O}$  (alkalinity) and  $\text{SiO}_2$  (silicate) than any other type of hydrated or anhydrous detergent silicate, either compounded or by itself. DRYMET contains no water of crystallization.

## CRYSTAMET\*

### The Medium pH Detergent Silicate

Cowles CRYSTAMET is a pure, perfectly white, free-flowing granular pentahydrate sodium metasilicate with the normal 42% water of crystallization. Suggested for compounding when it is desirable to lower the concentration of a finished product. Readily soluble — chemically stable — easy to handle. Can be used on medium pH jobs.

## DRYSEQ\*

### The All-Purpose Detergent Silicate

Cowles DRYSEQ, anhydrous sodium sesquisilicate, is a medium pH alkaline cleaner which will do fast, dependable work at a low cost to the user. It is a white, free-flowing powder, quickly and completely soluble in hot or cold water—containing 56.75%  $\text{Na}_2\text{O}$ —making it an economical base material for compounding.

## DRYORTH\*

### The Heavy-Duty Detergent Silicate

Cowles DRYORTH, anhydrous sodium orthosilicate, is a powerful, speedy, heavy-duty cleaner with valuable penetrating and wetting-out properties, reinforced dirt-removing power and unusual emulsifying action. It is an anhydrous, free-flowing powdered silicate containing not less than 60%  $\text{Na}_2\text{O}$ , which may also be used as an economical constituent of high pH cleaning compounds.

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PROMPT SHIPMENTS FROM CONVENIENT WAREHOUSE STOCKS

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As we said at the beginning of this series, production executives are giving increasing attention to the question of materials handling. Those who are not doing so are losing money in manufacturing operations. Two actual examples as to what may be done with efficient equipment and based on actual costs are cited in closing. One company cut their railroad box car loading expense from \$44 to \$7 by using fork trucks. Another reduced loading time for a granular powder by using a unit loading system, saving \$72.00 per car. Such savings demand careful attention.

#### **Fog Applicator Insecticide**

**M**ILL CREEK PRODUCTS CO., New York, have sent us information regarding their "Insecticide B," which is designed for use in insecticidal fog applicators such as the Todd "Tifa." Interiors of even food establishments may be fogged with comparative safety with this product. One gallon is required to treat 50,000 cu. ft. and kills from 19 per cent to 100 per cent for numerous types of insects are obtained. The product contains hydrogenated rotenone, pyrethrum and a heavy base oil. All these are designed to resist higher temperatures than ordinary space sprays. Chlorinated toxic agents are absent. Foods are not contaminated by its use. It is offered to the sanitary supply trade with the assurance that it is a safe insecticide for use in factories, warehouses, homes, etc.

#### **Sanitary Accessories**

**S**EVERAL new items of interest have recently come to our attention which may interest sanitary supply dealers. Chase Manufacturing Co., New York, is offering a small electric floor polisher that weighs seven lbs., and which may be used to clean table tops, counters, walls and similar wooden surfaces. The machine is powered by a disc brush that operates at 5000 R.P.M.

Lily Tulip Cup Corp., New York, has developed a new telescoping compact, red and gray color scheme, polystyrene plastic cup dispenser as a counter showpiece. It is easily loaded and so arranged that a fresh cup is al-

ways available at the top of the dispenser. It holds 250 cups and takes seven different sizes.

A pail heater that operates from any electric outlet is offered by H. D. Hudson Manufacturing Co., Chicago. The heating element, which may be used for warming water and other liquids, is immersed in the liquid and heats two gallons of water from room temperature to 119°F. in 12 minutes.

#### **Rust Arresting Paint**

**T**HE constant troublesome problem of painting rusty surfaces is overcome by the use of "Rustrem," made by Speco, Inc., Cleveland. The company claims that no priming, scraping or wire brushing is necessary to paint any metal surface. It is applied right over the rust and is recommended for stacks, fire escapes, tanks, machinery and autos. The paint comes in black or aluminum.

#### **Heat Transferer**

**G**IRDLER Corp. of Louisville, recommend their "Votator" for various purposes. As is well known, this heat transfer equipment is used for the manufacture of items like floating soap, brushless shave creams and shortenings. The company will cooperate with anyone who has a problem in cooking, cooling, deodorizing, crystallizing, hydrogenating, aerating or

emulsifying viscous and liquid materials. Considerable savings may be afforded they claim by using Votators, closed systems of heat transfer, instead of the usual open kettle boiling system.

#### **New Koppers Booklet**

A new, 18-page technical bulletin describing the wood treating facilities of the wood preserving division of Koppers Co., Pittsburgh, was issued recently under the title, "Pole Buyers' Guide."

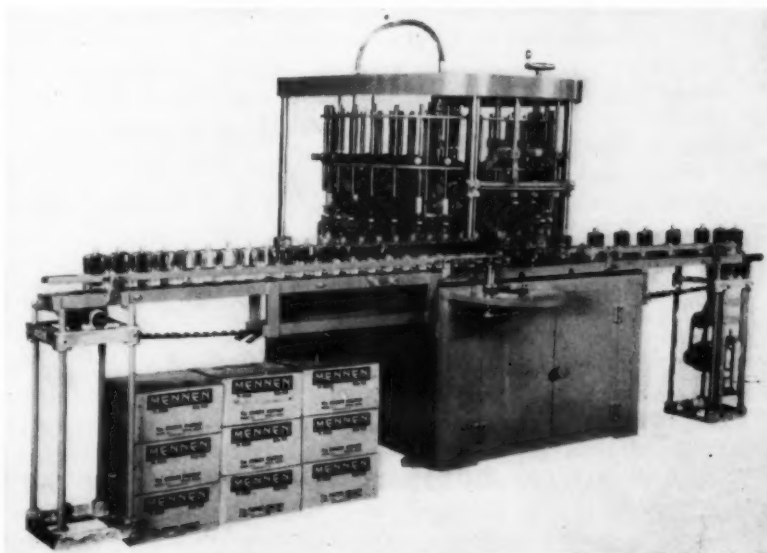
#### **Folder on Deodorizers**

A four-page folder on behalf of its line of "Klenz-Aire" deodorant oils was issued recently by Aromatic Products, Inc., Stamford, Conn. Types of odors available and information on packaging, formulation and use are covered in the folder.

#### **New MRM Filler Line**

A new and improved line of liquid filling machines was presented by MRM Co., Brooklyn, at the AMA Packaging Exposition in Atlantic City, May 9-13. Physical design of the equipment has been changed to make use of all modern metals now available, and new models have been re-engineered to increase efficiency. One such step in this direction is the use of cabinets and castings exclusively. The

The new 30 spout MRM filling machine.



# Take a Look at your soap kettles!

- IS THE TOP SECTION CORRODING?
- IS RUST DISCOLORING YOUR SOAP?



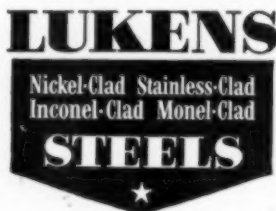
"Look at the difference in these two kettles," said the chemist for a soap company as he lifted the lids. "The nickel-clad steel top rings of this first one are good as new after six years of constant service. The other kettle, made of ordinary steel all the way up, should have been repaired or replaced years ago."

Deeply corroded spots in the wall of the ordinary steel kettle, and rust dripping from its top into the soap, certainly justified his complaint.

If examination of your soap kettles discloses a similar condition, ask your fabricator about replacing the top sections with Lukens Clad Steel.

He'll restore them to a "like-new" condition, providing protection that's equivalent to *solid* corrosion-resistant metal at the lower cost of *clad* steel.

Lukens makes Nickel-Clad, Stainless-Clad, Inconel-Clad and Monel-Clad Steels. The cladding 10% or 20% of total plate thickness, is permanently bonded to steel backing plate. The extra-smooth sodium hydride finish makes cleaning extra easy. For Bulletin 492, on Lukens Clad Steels in the Soap Industry, write Lukens Steel Co., 446 Lukens Bldg., Coatesville, Pa.



**SOLID METAL ADVANTAGES WITH CLAD STEEL ECONOMY**



use of prefabricated parts and the making of castings of major sections, in some cases, has resulted in price reductions.

A recently introduced MRM 30 spout, automatic liquid filler has been announced by the company. The new filler is capable of filling glass or metal containers ranging in size from fractions of ounces to gallons with thin, viscous or foaming liquids. Fast filling and quick changeover are features of the new filling machine.

#### Lukens Steel Bulletin

A new bulletin, "Product and Equipment Protection for the Soap Industry," was announced recently by Lukens Steel Co., Coatesville, Pa. The bulletin shows applications of clad steels — nickel-clad, stainless-clad, Inconel-clad and Monel-clad — in the soap industry. In addition, it discusses the corrosion resistance of these construction materials, explaining their manufacture and properties, and includes a rather complete description of each one with suggested applications. The bulletin contains a number of photographs showing equipment fabricated of clad steel and includes flow sheets for both boiled process soap and glycerine recovery, with clad steel recommendations. Copies of Bulletin 492 are available free by writing the company at Coatesville.

#### New Eco Pump Folder

A four-page folder on the "Eco" gearless pump was issued recently by Eco Engineering Co., Newark, N. J. The folder illustrates and lists uses for the pump. A cut-away drawing, in which principal parts are labeled, and a photograph of the interior of the pump are also shown. Other pumps made by the firm are illustrated on the final page of the folder.

#### Data on "Nonic 218"

A data sheet on "Nonic 218," a concentrated, liquid, non-ionic surface active agent of the alkylene oxide adduct type, was issued recently by Sharples Chemicals, Inc., Philadelphia. Physical properties and suggested uses are mentioned on the sheet, which is available from the company.

#### Chlorine Bleach Solutions

The practical production and properties of hypochlorite bleach liquors, — sometimes termed chlorine disinfectants, — are covered in a new 68 page booklet just released by the Technical and Engineering Service of the Solvay Process Division of Allied Chemical & Dye Corp. The booklet is divided into six chapters on (1) properties of hypochlorous acid and its salts, (2) types of industrially important bleach liquors, (3) practical preparation of bleach liquors, (4) equipment, (5) operation, (6) miscellaneous other information about hypochlorites. Illustrations of bleach making equipment are shown. This is Bulletin No. 14 in the Solvay Series. Copies may be obtained by writing direct to the Solvay Division, 40 Rec-tor St., New York 6.

#### Monsanto Fungicide Guide

A guide to formulating and applying "Milmer 1," an industrial fungicide, is now available from the maker, Monsanto Chemical Co., St. Louis. The 15-page bulletin on the material, which chemically is copper-8-quinolinolate, is based on extensive field and laboratory experience. Detailed descriptions of the material are given in the report, and minimum formulations and methods of application to protect textiles, plastic coated fabrics, protective coatings and other products are covered. The compound is virtually non-toxic to man, and is said not to irritate or sensitize the skin. It does not decompose under ultra-violet light.

#### Spray Drying Booklet

The principles, advantages and applications of spray drying to practically all materials capable of being pumped are thoroughly discussed in a new, 16-page, liberally illustrated bulletin issued recently by the Swenson Evaporator Co. division of Whiting Corp., Harvey, Ill. A feature of the company's facilities is the availability of a full-size spray dryer unit where prospective customers may, for a nominal fee, spray dry their products to determine on a plant scale run the proficiency and economy of the process.

Copies of the bulletin No. D-105, are available upon request.

#### Hercules Folder on CMC

New information on the physical properties of sodium carboxymethylcellulose made by Hercules Powder Co., Wilmington, Del., under the trade name, "Hercules CMC," is contained in a revised technical bulletin on the subject announced recently. Physical properties of the material are listed and new information on uses is given.

#### Hudson Sprayer Catalog

H. D. Hudson Manufacturing Co., Chicago, recently issued a 60-page, plus cover, catalog of its line of sprayers and dusters. In addition to illustrating and describing its complete line of compression, knapsack, portable, power, electric and hand sprayers, bucket barrel pumps, and hand and crop dusters, the catalog has a section devoted to hose, parts and accessories.

#### New Speed Oven Leaflet

A leaflet on its new speed drying oven for laboratory work was announced recently by Harry W. Dietert Co., Detroit. Method of operation, applications and specifications of the new oven, which is illustrated in the leaflet, are covered.

#### Bulletin on "Emcol H-74"

A bulletin describing "Emcol H-74" high concentrate type emulsifier for chlordane and toxaphene was issued recently by Emulsol Corp., Chicago. According to the bulletin, No. 27, which is available upon request, light-colored and stable concentrates of the two toxicants are possible with the new emulsifier in conjunction with kerosene type solvents.

#### U.S.I. CPR Base Folder

U. S. Industrial Chemicals, Inc., New York, recently issued a four-page folder on its "CPR" dust base for insecticides. The new base contains piperonyl cyclonene, pyrethrum, rotenone and other cube extractives. Rates of application are listed and general information on the product are also included in the folder.

**PUBLICKER PRESENTS**

# **PACTIVEX**

*A new surface active agent of  
outstanding efficiency*

## **Physical Properties**

Composition — 40% alkylaryl sulfonate (prepared from dodecyltoluene). Unsulfonated oil less than 1%.

Form—Free-flowing drum-dried flake.

Color—White.

Odor—Practically odorless.

pH—7-8 for 1% solution at 68°F.

Bulk-density—25-30 pounds per cu. ft.

Stable in presence of acids and alkali.

Excellent for compounding.

## **Surface Active Properties**

1. Lather height, Ross & Miles Test, 0.1% in distilled water at 125°F. — 160 mm. instantaneous foam decreasing to 141 mm. after 3 minutes.
2. Sinking Time, Draves Test, 0.1% in distilled water at 125°F. — 11 seconds.
3. Surface Tension, 0.1% in distilled water at 68°F. — 33.2 dynes/cm.
4. Interfacial Tension, 0.1% in distilled water at 68°F. against mineral oil — 3.1 dynes/cm.

PACTIVEX is not just another detergent. For most uses, it is the best alkylaryl sulfonate yet developed. If you will submit fully the details of your problem, our Applications Laboratory will be pleased to supply suggestions and formulations. Or, if you prefer, we shall send samples and literature for your evaluation.

**PUBLICKER INDUSTRIES INC.**

**NEW PRODUCTS DIVISION**

**1429 WALNUT STREET, PHILA. 2, PA.**

# PRODUCTS AND PROCESSES

## Vermicidal Wax Polish

A vermicidal wax polish contains phenol in sufficient quantity to act as antiparasitic agent. G. Maquestiau, Belgian Patent No. 470,022; through *Chem. Abs.*

## Nondusting Soap

A coating of a water-soluble organic material, applied to soap particles, reduces the tendency of the mass to form dust and to form lumps when poured on water. The recommended coating consists of starches, gums, or glues, applied to dry soap chips or powders by spraying a solution of the coating material and drying. Corn starch and gum tragacanth are especially suitable dissolved in water for spraying. Other materials may be included in this solution, or an emulsion can be provided so that kerosene or perfume also form a portion of the coating and reduce the tendency to form dust. About 0.1-0.5 per cent of the coating is used. G. De Wayne Miles, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,456,437.

## Insecticidal Degreasers

The product contains toxic insecticides such as DDT or hexachlorocyclohexane dissolved in organic solvents. M. Gerkens, Belgian Patent No. 470,768; through *Chem. Abs.*

## Shaving Soap

A shaving cream which gives a strong, stable lather is made from the following:

	Parts by Wt.
Tallow .....	1000
Castor oil .....	100
Olive oil foots. ....	100
Plant lecithin .....	50
Caustic potash, 50° Be. ....	430
Caustic soda, 40° Be. ....	20
Zinc stearate .....	20
Glycerine monostearate .....	20
Cetyl alcohol .....	10
Water .....	200, eventually 300

The tallow, olive oil and lecithin are slowly melted and held at about 60° C. The lye mixture warmed to the same temperature is slowly stirred in to the

melted fat, and the whole is kept warm for two hours. The castor oil is then stirred in and the mixture is allowed to stand for another half hour. Hot water is stirred in and the whole is kept warm for an hour, with care to avoid scorching. A cream is made with the glycerine monostearate and cetyl alcohol in water, in which these agents swell, after which the zinc stearate is stirred into the cream. This is added to the cooled soap mass, followed by mixing with perfume.

The various ingredients contribute to a smooth product which has a pleasant feeling on the skin. Zinc stearate tends to give an antiseptic action but cannot be present in too large amounts without changing the quality of the lather by making it somewhat pasty. J. Augustin, *Scifen, Ole, Fett, Wachse* 74, 247-8 (1948).

## Detergent and Disinfectant

An easily soluble powder giving off nascent oxygen can be prepared by mixing 30 per cent of hydrogen peroxide with a long-chain aliphatic detergent. The peroxide is stabilized with urea, thiourea, or hexamethylene tetramine. Sulfonamides can also be incorporated. In-Co-Ra, Swiss Patent No. 223,433; through *Chem. Abs.*

## Continuous Soap Making

Lower alkyl fatty acid esters are saponified continuously to yield pure soap and an alcohol such as methanol. The saponified mixture is spray-dried in a partial vacuum and yields soap and aqueous methanol. The soap is plodded to pellets, stored for two days, then milled to bars with subsequent cutting and stamping to cakes. The finished soap contains 0.05 per cent of free caustic soda and less than 0.15 per cent of methanol.

A variation in the process is the continuous treatment of the saponified alkyl esters with a secondary neat soap. The mixture is settled at atmospheric pressure to primary neat soap and nigre. The primary nigre is

worked up to yield final nigre and secondary neat soap to charge the system. G. B. Bradshaw, U. S. Patents Nos. 2,452,724 to 2,452,725.

## Soap From Coffee Oil

A wool-fat soap-cholesterol emulsion is added to an equal quantity of a coffee-oil soap on the basis of fatty acid content. The mixture is diluted with an equal quantity of water, heated to 90°C., and salt is dissolved in the soap glue just short of the point of separation. On standing a short time, the unsaponifiable matter separates and is skimmed off. The remaining soap glue of coffee-oil and wool-fat soaps is worked up according to well known procedures. Palm-oil and coconut-oil soaps may be used with the coffee-oil soap. L. Szucs, Swiss Patent No. 223,076; through *Chem. Abs.*

## Making Aluminum Soaps

Aluminum soaps of predetermined composition, uniform in blend and particle size, and essentially free from occluded impurities, are made by continuously mixing aqueous solutions of sodium soaps and water-soluble aluminum soaps with rapid stirring. Equivalent proportions are used. A. I. Gebhart and J. Ross, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,447,064.

## Coloring Soap

Dyes for soaps must be entirely soluble in hot water and must be sufficiently soluble in the soap itself so as not to cause streaks and spottiness. The lather should be perfectly white. Dyes are applied preferably dissolved in water and added during crutching. With milled soap an alcoholic solution may be mixed with the perfume material; usually 65 grams of dye is sufficient for 100 kilograms of soap. T. Ruemele, *Indian Soap J.* 14, 165-6 (1948).

## Antiseptic Soap

A soap possessing antiseptic properties, especially toward *Staph. aureus*, can be prepared by incorporating a halogenated 2,2'-dihydroxydiphenyl methane or its salts in the soap. L. Givaudan & Cie. Swiss Patent No. 223,543; through *Chem. Abs.*

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## MARKET

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Yes, it's full of increased sales-appeal and color stability for your finished products—because it's full of Heat-Tested Gross Stearic Acid. It's this heat test, which every shipment of Gross Stearic Acid must pass, that's responsible for the whiter color, the superior odor, the continued acceptance of A. Gross' Stearic Acid.

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Fatty Acids  
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Fatty Acids  
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Fatty Acids  
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Stearine Pitch  
Cottonseed Pitch  
Hydrogenated  
Tallow Fatty Acids

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295 MADISON AVE., NEW YORK 17, N. Y.  
FACTORY: NEWARK, N. J.



By John W. McCutcheon

**T**HE NEED for standardization of methods of evaluating detergency has been mentioned on several occasions (Nov., 1948 and Mar., 1949) in this column. The work of the American Society for Testing Materials is to be particularly commended. At the recent A.S.T.M. meeting in New York, a new piece of equipment for testing detergency, called the "Terg-O-Tometer," was on display. It was developed by Baker Instrument Co., Orange, N. J., in cooperation with United States Testing Co., Hoboken, N. J., the marketer of the device. Model BD-101, shown in an accompanying illustration, has four steel 2,000 ml. beakers, which are equipped with center bearing for the agitator and are immersed in a thermostatically controlled water bath. The bath is capable of control to one degree C. within a range of 25°C. to 100°C. The agitators are of the oscillating type with speed control in the range of 40 to 200 cycles per minute. The "Terg-O-Tometer" thus closely simulates the agitator type of home washing machine in its operation. The new device is claimed to give faster, more reproducible results than the "Launderometer," heretofore used as standard. Confirmation of this came from the head of a large commercial laboratory where the "Terg-O-Tometer" had been observed in operation. In the writer's opinion, the new machine is well worth consideration by those interested in evaluating detergency.

The value of fluorescent dyes in washing has been proved beyond any reasonable doubt. More and more washing products are appearing on the market containing these whitening agents. In soap products only a few hundredths of one per cent is required, so that even at five or six dollars a pound for the dye, the added cost to the product is insignificant. When added

to the soap or synthetic detergents, fluorescent dyes are usually put in the crutcher before the blowing operation



or they may even be added to the kettle itself. In discussing with some of the staff of a large dye manufacturer the addition of such materials to de-

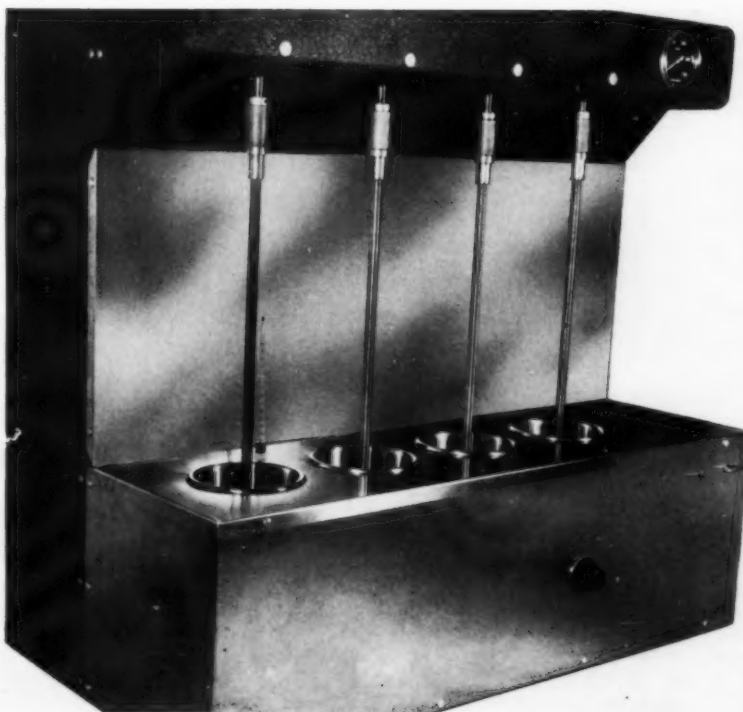
tergents, a few points of interest were brought out which may sound a word of caution to the over-enthusiastic. They include the fact that fluorescent dyes are not all of the same class. Some are more stable to heat and light than others. Some have a pronounced whitening effect on the first wash; others do not reach their peak until after several washes because the dye is substantive to the fibre. Some of the dyes are very sensitive to light, others to free chlorine in bleaches, and some to both. This sensitivity causes the formation of colored decomposition products which may yellow the fabric to a point where such dyes are actually harmful to the wash. A small manufacturer contemplating the use of such materials would do well to obtain as much information as possible from the manufacturer of the dye before using it.

\* \* \*

The discussion of the modernization of the soap plant, commented upon in the March and April issues, will be concluded in this issue with a reference to milling and crutching.

Soap mills are obtainable with either steel or granite rolls. Granite mills have long been standard equip-

The Baker "Terg-O-Tometer"



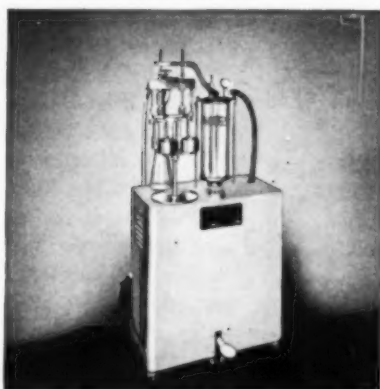
# 84 LOWEST FILLING COSTS KNOWN TO INDUSTRY

These U. S. Bottlers' filling units embody production improvements resulting from constant on-the-job research. All three units are built to standards of perfection that have made U. S. Bottlers' a symbol of dependable performance throughout the world.



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*The most widely used automatic filler. Designed for high speed production lines. Built in five sizes for containers up to and including gallons. Has worthwhile advancements and extensive engineering innovations for dependable, uninterrupted production.*



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*The most comprehensive filler for hand-fed operation. Interchangeable filling stems for any liquid or semi-liquid. Portable, motor supplied with cord and plug. Interchangeable parts permit handling of various sized containers.*



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99% minimum purity. Clean, uncontaminated odor. Boiling range and chemical compositions appropriate for all applications and required solubilities.

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90% distills within range of 7°C. which better Pharmacopoeia requirements.

**KOPPERS COMPANY, INC.**  
Pittsburgh 19, Pa.



Say you saw it in SOAP!

May, 1949

ment in cake soap manufacture. Usually four rolls constitute a set, which is geared so that the three top rolls have a slightly greater speed than the rolls below. Speeds approximate 9 RPM, 15 RPM, 22 RPM and 35 RPM. The speed of the top roll is about three or four times that of the bottom. In other lines of milling this ratio is not observed, a fact which requires the purchase of mills for use in soap to be done with considerable care. If four sets of mills are run in tandem, frequently they are adjusted so that the last set runs faster than the first. Quite often it is an advantage to have the last set made of steel. The faces of the granite mills must be smooth and uniform. They can be ground down, but this is an expensive operation. The bearings must be good. It is impossible to obtain the proper flake thickness on a mill with bad bearings. Spacing between the rolls varies from 0.030" to 0.060" usually and calibration is best made by measuring the flake thickness while the mill is operating at capacity.

Steel roll mills operate at higher speeds and have closer setting than granite mills but, due to the heat developed, are subject to roll distortions under operating conditions. Water cooling corrects this defect but even under such conditions the rolls may become distorted unless the inside surface of the roll is also milled smooth. Abrasives in soap are very hard on a mill. If it cannot be avoided, confine milling abrasive soaps to the oldest mill.

Plodders equipped with proper screens and knives may be used to replace mills, resulting in a somewhat cheaper overhead. A product of poorer finish results because of a persistent grain which is imparted to the bar. Plodder nozzles have temperature control devices. The best are electrically heated.

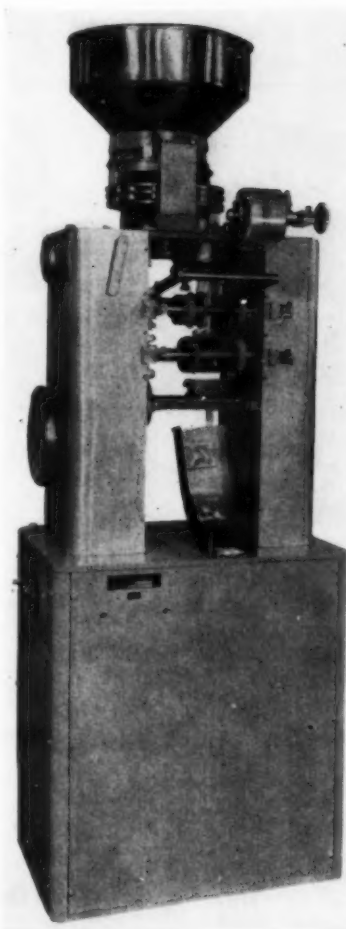
Soap dies may be made of brass, bronze or stainless steel, depending on the use to which they will be put. Stainless steel dies are very expensive, but they last longer and are not subject to the nicks and scratches of brass. Frequently, a specialty manufacturer uses one die body for a number of products by having the name on a re-

movable panel. In such cases the design should include a line running

### New Package Machine

A new, fully automatic machine that forms, fills and seals a package at high speeds was announced recently by Triangle Package Machinery Co., Chicago. "Roto-Pak," the new package machine, can turn out packages made from any material having a heat seal coating. Standard packaging films such as "Cellophane," "Pliofilm," polyethylene and foil laminate in either overall printed, plain or registered printed form can be used. The machine automatically forms the package from two rolls of material. It feeds the product from a hopper to a set of precision machined measuring cups, which deposit the loads through a forming tube into the packet. Feeding can also be accomplished by hand for certain irregular shaped objects.

### New Triangle "Roto-Pak"



around the panel edge to camouflage it after extended use. Dies used on abrasive soaps should be stainless to minimize wear. For fancy bars, pin dies are frequently more practical than box dies. Automatic presses for such dies are available. Box die presses may be obtained to press one, two or three bars at one time. Often they operate to give a preliminary forming kick, followed by a smaller finishing one. The kicks in no way reduce the overall speed, which may be as high as 150 bars per minute or more.

Vacuum equipment for glycerine recovery varies with the specific application, but usually consists of one or more steam ejectors operating at 100 pounds or more of steam. Pumps may be used in certain applications, particularly where large amounts of water are withdrawn from the system as in esterification or bleaching. In either case, cooling water is essential, and from an economy point of view usually calls for a cooling tower.

Crutchers are usually of 1,000 to 6,000 pounds capacity, although special ones may run much higher: up to 40,000 pounds or more. Soap frames, usually movable in America, are stationary in Europe. In the latter case the slabber must be portable. Also in Europe, water cooled presses are used to replace frames. The soap is pumped into chambers much as cake is formed in a filter press. Cold brine is circulated and in a few minutes the hardened soap may be removed. The chief objection is that the soap cools unevenly and forms strata of various colors. In view of the shrinking laundry bar soap market and the increased use of soap powder, it is doubtful if the American soap industry will ever become interested in this development.

### Spill-Proof Acid Container

A new, closed type, unbreakable container for carrying acids, alkalis and other corrosive solutions without danger of spilling is now available in one, three and five gallons sizes, it was announced recently by Automotive Rubber Co., Detroit. The closed container is one of nine utensils in the line, which includes pails, dippers, measures, funnels, etc.

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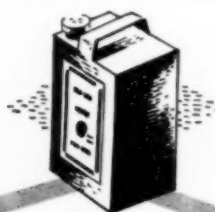
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STREET.....

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NEW

# PATENTS

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Lancaster, Allwine &  
Rommel

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AND COPYRIGHTS

402 Bowen Building,  
Washington, D. C.

Complete copies of any patents  
or trade-mark registration reported  
below may be obtained by sending  
50c for each copy desired to  
Lancaster, Allwine & Rommel.

No. 2,462,831, Detergents and  
Method of Making Them, patented  
March 1, 1949 by Emil E. Dreger,  
Summit, and John Ross, Ramsey, N.  
J., assignors to Colgate-Palmolive-  
Peet Company, Jersey City, N. J., a  
corporation of Delaware. A non-ir-  
ritative soap product is covered con-

taining the soaps of fatty acids hav-  
ing at least 12 carbon atoms and sub-  
stantially free of the soaps of fatty  
acids having less than 12 carbon atoms,  
at least a portion of said soap prod-  
uct consisting of soaps of the fatty  
material forming the residue of fatty  
oil containing an appreciable percent-  
age of glycerides having fatty acid  
radicals of less than 12 carbon atoms  
upon removal therefrom of fatty acids  
having less than 12 carbon atoms, in-  
cluding the fatty acids derived from  
the glycerides in said oil having fatty  
acid radicals of less than 12 carbon  
atoms, said soaps having at least as  
good lathering properties as those  
which characterize the soaps of the  
fatty acids of the said fatty oils and  
being free from the skin irritating  
properties normally characterizing  
said soaps of said fatty oils.

No. 2,463,680, Process of Mak-  
ing A Dust-free Alkaline Detergent  
Product, patented March 8, 1949 by  
Thomas E. Corrigan, Wyandotte,  
Mich., assignor to Wyandotte Chem-  
icals Corporation, Wyandotte, Mich.,  
a corporation of Michigan. The proc-

ess of making a dust-free, homo-  
geneous chemical product, is covered  
comprising the steps of mixing to-  
gether substantially equal parts by  
weight of dry solid sodium hydroxide  
of 10 to 20 mesh particle size and dry  
solid sodium carbonate the majority  
of which has a particle size not larger  
than 100 mesh, rolling such mixture  
under pressure into a sheet-like flake  
having a thickness of not over 0.1  
inch, and then breaking such flake  
into smaller flake particles, the major-  
ity of the latter having a particle  
size of no smaller than 20 mesh.

No. 2,465,398, Soap Trimmer,  
patented March 29, 1949 by Earl J.  
Reddert, Madison, and William Sar-  
torius, Summit, N. J., assignor to Col-  
gate-Palmolive-Peet Company, Jer-  
sey City, N. J., a corporation of  
Delaware. Apparatus is covered for  
automatically shaping blanks of soap  
or the like preliminary to die press-  
ing each blank comprising a contin-  
uously movable feed conveyor for ad-  
vancing a close succession of pre-cut  
blanks into said apparatus, a take-  
away conveyor at one side of the feed  
conveyor, a positioning stop in the  
path of the blanks on the feed con-  
veyor, means for laterally transfer-  
ring the blank on the feed conveyor  
which is in contact with said stop  
onto the take-away conveyor, and die  
means for trimming the blank during



## CHEMICALS

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SOAP AND DISINFECTANT  
INDUSTRIES

The health records of America show the vital part  
played by the soap and disinfectant industries. As a  
principal chemical supplier to these most important  
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PARACHLOROMETACRESOL

CHLOROXYLENOL  
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XYLOL  
HI-FLASH SOLVENT  
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## NEW, POWERFUL SEQUESTERANT VERSENE Fe-3\* (Inactivates Trivalent Iron)

**VERSENE Fe-3\*** does more than soften water. It actually inactivates troublesome trivalent iron as well as calcium, magnesium and other metallic salts. Until VERSENE Fe-3 was developed there was no really satisfactory sequestering or chelating agent for ferric iron.

At pH7, 10 cc of VERSENE Fe-3 sequesters 167 mg. of ferric iron plus 158 mg. of calcium. At this pH it is nearly 10 times more effective in sequestering trivalent iron than at pH12. Maximum effectiveness on alkaline earth ions is at about pH9 and a further increase in pH has little additional effect.



### VERSENE\* (REGULAR)

Regular VERSENE is an exceptionally versatile product for the Soap Industry. It is chemically known as Ethylene diamine tetra acetic acid tetra sodium salt. Versene does the following things with great effectiveness.

**SOFTENS WATER . . .** without the formation of precipitates. It forms soluble non-ionic compounds with alkaline earth and other ions such as ferrous ions which cause hardness in water. VERSENE is the only sequestering agent that can be manufactured into soap and remain in it as a water softener without decomposition.

**CLARIFIES LIQUID SOAP . . .** increases foam and rinsability. Eliminates precipitates by removing interfering metal ions through formation of inactive and stable complexes of VERSENE.

**ANTI-OXIDANT . . .** for fats, oils, soaps, fatty acids, and other organic materials. Minute amounts of VERSENE act as a preservative and prevent rancidity.

**DISSOLVES GREASE AND FOOD DEPOSITS . . .** acts as a buffering agent. Saponifies fats. "Solubilizes" and partly hydrolyzes proteins. Provides two-way cleansing action.

**PURIFIES ORGANIC MATERIALS . . .** Organic materials contaminated with metals may be purified by the addition of small quantities of VERSENE. The offending metals are complexed and their ion activity reduced. The complex compound may in most cases be easily removed from the organic material thus insuring a higher grade product.

Regular VERSENE is available either as a pale, straw-colored aqueous solution or as a dry, white powder.

Write for samples, further applications and complete specifications.

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**BERSWORTH CHEMICAL  
COMPANY**  
Framingham, Massachusetts

said transfer from the feed conveyor to the take-away conveyor said stop arresting movement of the leading blank relative to said feed conveyor so as to maintain that blank in transverse registry with said die means until said transfer takes place.

**No. 2,465,346, Dedusting Process and Product Thereof**, patented March 29, 1949 by John W. Bodman, Winchester, Mass., assignor to Lever Brothers Company, a corporation of Maine. Patent is sought on a process of treating granulated water soluble soap to prevent substantially the formation of dust therein, comprising applying to the particles of soap a superficial coating of a hygroscopic alkaline earth metal chloride in an amount to inhibit dehydration of the soap and the formation of soap dust particles, but not to increase greatly the hardness properties of the water when the soap is used in ordinary concentrations for laundry.

**No. 2,462,923, Purification of Glyceride Oils**, patented March 1, 1949 by Benjamin H. Thurman, New York, N. Y., assignor by mesne assignments, to Benjamin Clayton, Houston, Tex., doing business as Refining, Unincorporated. The method is covered of purifying glyceride oils which are substantially free of gums and which contain small amounts only of impurities,

which process comprises, admixing with said oil an aqueous caustic alkali refining agent having a concentration between 10° to 50° Be and in just sufficient amounts to produce separation of impurities from the oil as part of an aqueous phase during continuous centrifugal separation of the mixture, the concentration of said agent being sufficient to prevent emulsification of the oil into said aqueous phase, whereby the resulting mixture first separates into an oil phase and an aqueous phase in a continuous centrifugal separator and then an intermediate soap phase tends to separate from said aqueous phase and partially mix with said oil phase, subjecting said mixture to said continuous centrifugal separation, and discharging said aqueous phase from said continuous separator substantially as soon as it separates from said oil phase and prior to substantial separation of said intermediate soap phase from said aqueous phase.

**No. 2,463,324, Sesame Extract Synergized Insecticides**, patented March 1, 1949 by William A. Simanton, Oakmont, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware. An insecticidal composition is patented essentially comprising an insect toxicant selected from the group consisting of pyrethrins and rotenone,

and, in an amount sufficient to synergistically increase the insecticidal activity of said insect toxicant, a mixture of thermally undercomposed low molecular weight alcohol extracted sesame oil components prepared by extracting sesame oil with a low molecular weight alcohol to remove about six to about 10 per cent by weight of said oil in an extract phase, and removing said alcohol from said extract phase at a temperature below the thermal decomposition temperature of the extracted components of said oil.

**No. 2,465,335, Insecticidal Spray Oil Containing Lecithin**, patented March 29, 1949 by Myron J. Burkhard, Ridgewood, N. J., assignor to Socony-Vacuum Oil Company, Incorporated, a corporation of New York. A spray oil for use in verdant spraying is covered comprising a moderately refined petroleum oil of from about 50 to 150 seconds Saybolt viscosity at 100° F., having an unsulfonatable residue not over about 80% and in addition thereto from about 0.05% to about 1.0% by weight of lecithin.

**No. 2,462,835, Fly Spray**, patented March 1, 1949 by Harold W. Arnold and Norman E. Searle, Wilmington, Del., assignors to E. I. du Pont de Nemours & Company, of Wilmington, Del., a corporation of Dela-

## New POLISHED CHROME POWDERED SOAP DISPENSER *by Federal*

**FEATURES:** Wide-opening top for easy filling . . . Cover anchored to dispenser . . . Small non-clog push up type discharge valve with agitator; prevents packing and insures smooth constant quantity discharge . . . Standard heavy brackets for direct mounting to wall or horizontal pipe.

**APPLICATIONS:** Industrial Plants, Public Buildings, Office Buildings, Schools, Theaters, Stores, Gasoline Stations—also a practical convenience for the home laundry and kitchen.

**MATERIALS:** Polished chrome brass container . . . High luster finish . . . Metal valve mechanism . . . Stainless steel spring.

**SPECIFICATIONS:** Size—9 $\frac{3}{8}$ " high x 4" diameter. Weight—2 lbs. 3 $\frac{1}{2}$  oz. (including bracket). Capacity—1 $\frac{1}{4}$  qts. (liquid measure).

**NAME PLATES:** Individual name plates designed, furnished, and mounted. Quotations on request.

**PACKING:** Standard packing—1 unit to individual reshipper carton (weight 2 lbs. 9 oz.), repacked 1 doz. to shipping case.

(We do not sell soap powder)

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COMPLETE WITH  
*All-Metal*  
VALVE MECHANISM



MODEL  
No. 3



ware. A fly spray composition is patented comprising a solution of pyrethrum and an amide of a primary amine and a dicarboxylic acid having an unsaturated aliphatic carbon chain of at least two and not more than three carbon atoms linking the carboxyl groups, said pyrethrum being present in about five to about 95 milligrams per 100 cc. and said imide being present in the amount of at least about 10(100-P) milligrams per 100 cc. where P is the amount of pyrethrum in milligrams per 100 cc. of the fly spray.

**No. 2,465,470, Insect Repellent Stick**, patented March 29, 1949 by Allen L. Omohundro, Wilton, and Franz M. Neumeier, Fairfield, Conn., and Benjamin R. Zeitlin, Bronx, N. Y., assignors to McKesson & Robbins, Incorporated, Bridgeport, Conn., a corporation of Maryland. An insect repelling solid alcoholic soap gel stick is covered containing for its active ingredient from 20% to 50% by weight of o-dimethyl phthalate and 2-ethyl-1,3 hexanediol, the proportion of each of said substances within the percentage range of the active ingredient varying from zero to 100%, alcohol in an amount from 9% to about 30%, the alcohol serving as a solvent for the active ingredient, soap in an amount to solidify the composition, and water in an amount of about three per cent to four per cent.

### Wetting Agents Book

*Surface Active Agents* by A. M. Schwartz and J. W. Perry. Published by Interscience Publishers, Inc., N. Y. 590 pp, 6 x 9 inches, cloth binding, price \$10.00.

The introductory 25 pages of this book deal with a general discussion of phase interfaces, nomenclature and classification of surface active agents, and a classification system for the hydrophobic groups.

The text is divided into three main sections. The first section of 216 pages, deals with the processes for synthesizing and manufacturing. Anionics are covered under a separate heading of 126 pages; the cationics, non-ionics and other agents are grouped into a second part of this section, to which 90 pages are devoted. Ester, amide, ether and other intermediate linkages used in synthesizing sulfatable hydroxyl compounds are described for the different groups.

The theoretical aspects of the chemistry and physics of surface phenomena are summarized in the second

section of 156 pages. Topics included in this section are: surface and interfacial relationship of pure liquids, bulk properties of surface active solutions; surface properties of solutions; and the technical evaluation of surface active agents.

Sketches, graphs and charts illustrate the text, contributing to a better understanding of the material under discussion.

The third section of 122 pages deals with the practical applications of surface active agents. Applications in the textile industry; cosmetic and personal uses; pharmaceutical, disinfectant uses; household and general cleaning uses; applications in other industries as well as miscellaneous uses of the surface active agents are included in this section.

### Essential Oils

*Essential Oils* by E. Guenther and D. Althausen. Published by D. Van Nostrand Co., New York. 865 pp. 6 x 9 inches, cloth binding, price \$10.00.

Up to date data pertaining to the occurrence, structural formulas, physico-chemical properties, and methods of isolation and identification of the natural constituents of essential oils are compiled in the form of monographs in one volume. A number of synthetic products of interest to the essential oil chemist, and structurally related to the natural isolates are also included.

The volume is divided into three parts: the first deals with the constituents of essential oils; the second, with terpenes, sesquiterpenes, and derivatives of unknown constitution; and the third, with the preparation and derivation of essential oil constituents. Each part is further classified into sections treating the hydrocarbons, alcohols, aldehydes, ketones, phenols and phenol ethers, quinones, acids, esters, etc.

Data on the natural constituents are arranged according to: occurrence, of which only the most important sources are cited; isolation, containing detailed procedures; identification, the isomers are described in the purest form, and where possible, de-

rivatives distinct for each form and special methods for characterizing stereo isomers are included; properties; and uses. References to original literature are cited, aiding the researcher in further investigating the material.

### New Hilditch Volume

*The Chemical Constitution of Natural Fats* by T. P. Hilditch. Published by John Wiley & Sons, Inc., N. Y. Second edition, revised. 568 pages, 6 x 9 3/4 inches, cloth binding, price \$9.00.

The natural fats occurring in plant and animal life are treated as a group of organic compounds. The chemical constitution and properties of the individual fatty acids are discussed, with particular emphasis on the glycerides. The second edition, larger than the first by about a hundred pages, includes the addition of numerous component acid data in the groups of land animal and vegetable fats. New information on individual fatty acids, revision of the section on experimental techniques and other sections are the new features of the second edition.

Material dealing with the component acids of fats and component glycerides is divided according to the biologic groups: aquatic flora and fauna, land animals, and vegetable fats. In the chapters on the biochemistry of fats, constitution of individual natural fatty acids, and synthetic glycerides are covered. A chapter is devoted to the experimental technique employed in the quantitative investigation of fats.

References to original articles append the various chapters. The subject matter is classified into several indices of the main groups of fats, in addition to the general index.

### Book On Odors

*Odors, Physiology and Control* by C. P. McCord and W. N. Witheridge. Published by McGraw-Hill Book Co., New York. 415 pages, cloth binding, price \$6.50.

A presentation of the anatomy of the olfactory system, its physiology, the chemical constitution of odors

(Turn to Page 151)



# SANITARY PRODUCTS

## A SECTION OF SOAP

**R**ELABELING of insecticides containing DDT and other chlorinated compounds to include a warning that they shall not be used on milk cows or in and around milk cow barns came as a more or less expected requirement from USDA recently. Products already in stock throughout the country, having been shipped prior to the new ruling for 1949 seasonal use, need not be changed. But, products hereafter shipped by a manufacturer across a state line must comply by carrying a new label or an added warning sticker on the label.

Some manufacturers have complained that they were taken by surprise and that the new regulation comes at a time when they are in the midst of making 1949 shipments, — that it is too late to make the label change, — and that they will miss the market. They term the regulation unfair and arbitrary.

Almost four months ago, NAIDM warned its members, and that warning was echoed here, regarding possible restrictions on DDT in and around cow barns. Those who heeded the warnings find their labels in accord with the new regulation. Their anticipation of it required no particular clairvoyant powers. Hysterical publicity against the alleged dangers of chlorinated insecticides in foods, and particularly milk, some of it dating back almost a year, gave USDA officials little chance to find an alternative. Public clamour forced their hands. But, we feel, based on earlier warnings, the handwriting had been on the wall for some time. Those who couldn't be bothered to read it, — and we regret to note that the majority of insecticide manufacturers seem to fall in this classification, even to ignoring the repeated warnings of their trade associations, — may find themselves in a stew over their labels today.

**A**MONG firms which heretofore engaged only in jobbing sanitation supplies and equipment, a growing tendency to undertake the manufacture of some of their specialties has been shown during the past two years. That this apparent trend is causing considerable concern among manufacturers who have confined their selling wholly to the jobbing and distributing trade has been noted here before. With sales fewer, prices lower and competition keener, the manufacturer who sells only to jobbers and has never sold direct, finds more of his jobber-customers making their own products of one sort or another and his sales problem becoming acute.

The alternative facing manufacturers who find their sales to jobbers slipping away is quite obvious. If they cannot sell the jobber, then they may be compelled to go into competition with their former customers and sell direct. Such an entrance into the industrial and institutional consumer market might entail ideas on prices not in accord with those usually held by the jobber. In fact, any concerted move toward direct selling could bring a chaotic market for a time and mean rough going for those units less firmly established.

With these possibilities as a background, we feel that this trend in some quarters to "make it ourselves and save the manufacturer's profit" might be shortsighted. Not only are the matters of new and well-entrenched competition to be considered. Those of quality and manufacturing know-how can also loom large as serious and costly problems. Frankly, we feel that the wisest jobbers are leaving production headaches for the specialist to take care of, and are confining their efforts where they can do the most good in the profit column — to effective sales and distribution.

# THE TENTATIVE N.A.I.D.M. AEROSOL

## I. Introduction

**E**ARLY in the developmental period of liquefied gas aerosols, starting in 1942 and especially following their appearance on the civilian market on a large scale in 1946, the need for a common method of biologically assaying aerosols became apparent. The literature records several testing techniques (among them 1, 2, 3, 4, and 5) employed by various investigators, but the necessary cooperative tests leading to the development of an official method were not initiated until 1947. The first series of cooperative aerosol tests among industrial and federal laboratories was organized and conducted in 1947 under the direction of the N.A.I.D.M. Aerosol Committee (6). This first series of tests employed a standard formulation in a standard dispenser at three dosage levels by the method in current usage in the cooperator's laboratory. Employing the results of the first cooperative test as a basis, a second series of cooperative tests was designed and conducted under the direction of the N.A.I.D.M.'s Insecticide Scientific Committee. In this second series of tests, made during the period May to

October, 1948, four conventional low pressure aerosol formulations packaged in a standard dispenser were tested by nine cooperating laboratories. In these tests (7), the use of free flying flies, a standard dosage and a standard testing technique were employed. The method here presented is based on the outcome of both the first and second series of cooperative tests and, insofar as practical, follows the Official Peet-Grady (8) Test Procedure (both large and small group). This technique for testing aerosols should be regarded only as a practical test method (not a research method) designed for the comparison of formulations in the dispensers in which they will be employed by the consumer. It is restricted at present for use against house flies, although it is felt that with modifications in dosage the general procedure would be satisfactory for other flying insects. Further cooperative tests will be necessary before the method can be adopted in final form.

## II. Apparatus

### A. Reference Insecticide.

The reference insecticide shall be the Tentative Official Test Aerosol (TOTA) prepared by the N.A.I.D.M.,

Inc. The TOTA must be dispensed from the container in which it is supplied with particular care being taken that the TOTA dispenser employed meets the specifications designated on its label.

### B. Dispenser for Experimental Aerosol.

No restriction is made on the dispenser employed in connection with the experimental aerosol formulation. However, it should be noted that the test results apply only to the experimental formulation as dispensed from the particular unit employed. In reporting results, the dispenser used with the experimental aerosol shall be specified.

### C. Test Insect.

The test insect shall be the house fly (*Musca domestica*, L.) reared from a strain mixed under the supervision of the N.A.I.D.M. Healthy test groups having an average age of four days are to be used and individual flies in the test groups shall be not less than three nor more than six days old at the time of testing. The strain shall be of such susceptibility that the Official Test Insecticide (OTI) will cause a

(Suggested Label for Tentative Official Test Aerosol)

Front Panel

N.A.I.D.M.  
Seal

1949-1950  
TENTATIVE OFFICIAL  
TEST AEROSOL

Household Type Insecticidal Aerosol  
Not To Be Used After January 1, 1951

National Association of  
Insecticide and Disinfectant  
Manufacturers, Inc.

110 East 42nd Street  
New York 17, N. Y.

(Suggested Label for Tentative Official Test Aerosol)

Back Panel

## METHOD OF USING THE TENTATIVE OFFICIAL TEST AEROSOL

Follow the procedure in accordance with the N.A.I.D.M. Tentative Official Aerosol Test Method for Flying Insects.

Store at 50-90°F.

**IMPORTANT** — Read carefully the accompanying printed enclosure. Results are not valid unless they conform to these prescribed conditions.

For official use, the T.O.T.A. dispenser must be undamaged, show no signs of leakage, and have a delivery rate of 7 to 12 grams per 10 seconds at  $82 \pm 2^\circ\text{F}$ . The dispenser must be discarded when 80 per cent of its original contents have been used or when the dispenser weighs less than 160 grams.

# SOL TEST METHOD FOR FLYING INSECTS

24-hour mortality of 30 to 55 per cent and with approximately 95 per cent of the flies paralyzed at ten minutes following spray application by the Peet-Grady method.

## D. Fly Cages.

Cages of any convenient type may be used if they provide at least one cubic inch of space per fly and have at least two sides and the top screened. It is suggested that the base be square in shape to provide maximum floor space. The floor of the cage is preferably detachable to facilitate cleaning and inserting a paper floor covering. The cages are constructed of wood or other suitable material and 16 mesh wire screening, and are fitted with a sleeve opening, rubber membrane, or a door.

## E. Rearing Room.

This room may be of any convenient size constructed so as to be free from strong drafts, and maintained at a temperature of  $82 \pm 2$  degrees Fahrenheit and relative humidity of  $50 \pm 5$  per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odors and gases from fermenting media.

## F. Testing Room.

This room shall be of any convenient size, capable of holding the aerosol test chamber (Peet-Grady Chamber or large chamber) and permitting adequate additional space for the operator to handle the test efficiently. While conducting tests, this room shall be maintained at a temperature of 75 to 85 degrees F. It is suggested that the relative humidity be held between 40 and 70 per cent. Since the exhaust fan of the chamber will move relatively large quantities of air, the temperature of the air entering this room should be approximately that specified above.

## G. Aerosol Test Chamber.

The test chamber shall be a Peet-Grady Chamber as specified in the Peet-Grady Method, or a larger chamber meeting the general specifications of the Peet-Grady Chamber. In the case of larger chambers, it is recommended that the dimensions be such as to approximate a normal room.

## H. Exhaust Fan.

An exhaust fan moving not less than 1000 cubic feet of air per minute through the Peet-Grady Chamber, or a fan of proportionately larger capacity for testing chambers larger than the Peet-Grady Chamber shall be used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

## I. Insecticide Paper.

Unsize, nonglazed, absorbent paper, such as brown kraft or gray bogus, shall be used to cover the chamber floor. No special weight is specified although 60 to 80-lb. gray bogus paper has been found excellent. In certain laboratories testing chamber ceilings and walls have been covered with cardboard, kraft paper, or other material suitably arranged for easy renewal to reduce chamber cleaning difficulties.

## J. Apparatus for Picking Up Flies.

Any convenient means of picking up the paralyzed flies without injuring or appreciably disturbing them may be used. If a vacuum device is used, it must produce gentle suction, have a sufficiently large receptacle to prevent crowding of the flies, and be cleaned after each test with the same materials used in cleaning the chamber.

In laboratories in which it is felt desirable to capture unparalyzed flies at the end of the test exposure period, suitable means of capturing the flies without injury in a clean apparatus shall be employed.

## III. Procedure

### A. Rearing and Handling Flies.

In this procedure, eggs are transferred to media suitable for the development of larvae, the pupae are collected from the media and placed inside of cages, and the adult flies emerge and remain in these cages until the day of testing.

(a) *Larval media:* The preferred containers are cylindrical glass battery jars approximately 6 in. in diameter and 9 in. high. For one jar, mix 340 gm. (12 oz.) standard dry larval media, (1) with approximately 750 cc. of an aqueous suspension containing 15 gm. moist cake yeast and 10 cc. non-diatatic Diamalt, (2). Mix thoroughly until a loose, fluffy media is obtained, transfer it to the battery jar without packing, cover with cloth and set in the insectary. The amount of suspension required for best rearing results will need to be determined in each laboratory and it may be varied in order to prevent mold growth. It is suggested the media be prepared in the late afternoon of the day before egg collection.

(1) Mixed quarterly according to N.A.I.D.M. specifications by the Ralston Purina Co., St. Louis, Mo., on the basis of orders received by the first of January, April, July and October, in 50 lb. bags. Terms—pay on receipt of invoice.

(2) Standard Brands, Inc. products. These can be obtained from local distributors in most cases.

(b) *Eggs:* Eggs are collected for a period not longer than 16 hours from food dishes or other oviposition media in cages containing mature flies not more than 8 days old. It is suggested that fresh oviposition media be placed in fly cages in the late afternoon and eggs be collected early on the following morning. After collecting the eggs they must be measured and seeded without delay. Wash the eggs



in tap water at room temperature and measure 2000 eggs as accurately as possible. This may be done by allowing the eggs to settle in a calibrated pipette or graduate (0.1 cc. settled eggs contains about 700) or the eggs can be filtered and measured in calibrated pits or cells. Use 10 cc. tap water to measure and to scatter the eggs in a  $\frac{1}{2}$  in. pit located in the center of the jar of larval media. Cover the eggs with loose media, replace the cloth covers on the jars, and set jars in the insectary so that at least 1.5 in. separates each jar to permit free air circulation. The maximum temperature in the jar (about 3 days later) must not exceed  $130^{\circ}\text{F}$ . Under normal conditions, more than 85 per cent of the eggs should hatch within 36 hours of the time they are laid.

(c) *Pupae*: Mature larvae migrate to the top portion of the media and normally all larvae will have pupated by the seventh day after seeding eggs. When this occurs, the portion of media containing pupae is loosened, poured into a shallow tray, and air dried at room temperature. An electric fan may be used to hasten drying. Pupae are separated from the dry media by sprinkling the pupae-media mixture on an inclined tray or chute set in front of an air blast such as that from an electric fan. The pupae must be handled gently and as little as possible in order to avoid injury. Under normal conditions, at least 95 per cent of flies will emerge from the pupae.

The separated pupae are thoroughly mixed and weighed in groups as test units and each group is placed in a shallow dish which is, in turn, placed in a cage which provides at least 1 cu. in. of space per pupa. If the large group procedure is used the test unit consists of approximately 500 pupae. If the small group procedure is used, more than 500 pupae are placed in stock cages and adult flies are sampled prior to testing.

(d) *Adult Flies*: Each cage is supplied daily with a dish containing at least 15 cc. of a 50 per cent dilution of milk with water for each 100 flies and so prepared as to prevent the flies from drowning. A 40 per cent formalin solution at the rate of 1/1500

delays souring of milk for several hours. Satisfactory food must be available to the flies at all times. The series of test units is kept until the second day of oviposition (usually the 14th day after the culture was prepared) when they are ready for testing. Under normal rearing conditions, at least 80 adult flies should be obtained from each 100 eggs seeded.

#### B. Testing Flies.

Before a fly aerosol test is started, the aerosol test chamber must be clean and have clean paper on the floor, all ports and openings must be closed, and the temperature must be  $82 \pm 2^{\circ}\text{F}$ ., and all windows must be equally shaded. In chambers where walls and ceilings are covered with paper or other material, contamination, if present, must be at sufficiently low levels not to influence test results. Chambers are considered to be contaminated and unsatisfactory for test use when test flies, held in them for a 12 to 16 hour period with food but without insecticide treatment, show mortalities in excess of 10 per cent, or when over 10 per cent of the flies are paralyzed within 30 minutes after liberation. It is recommended that laboratories make a standard practice of taking contamination observations, employing a normal fly test group, following each day's testing. In both the large and small group procedures, only flies which are capable of flying may be liberated into the aerosol test chamber. In the large group procedure, all flies in one cage are used in a single test; but in the small group method, a sample of  $100 \pm 5$  flies is used in each test. Samples may be taken by liberating the flies directly into the chamber and continuing until about 10 per cent of flies remain in the stock cage. These are discarded. Samples may be taken also by discarding the first 100 flies and then counting 50 flies into each of a series of small cages. One hundred flies are counted into the last cage and, working backward, 50 flies are added to each. Flies remaining in the stock cage are discarded. The order of spray treatments must be randomized.

After liberating the flies in the chamber, and with the bomb at  $82 \pm 2^{\circ}\text{F}$ ., a total of 4.0 grams  $\pm 0.5$

gram of aerosol mixture per 1000 cubic feet shall be applied in a continuous flow. In Peet-Grady Chambers, this is  $0.864 \pm 0.108$  grams. The dispenser nozzle may be oscillated slowly to effect uniform distribution of the aerosol mist within the test chamber. The mist shall not be directed onto chamber wall and ceiling surfaces. The test dispenser shall be weighed before and after the liberation of the aerosol mixture and the actual weight of material introduced shall be recorded. The chamber is closed at a constant temperature in the range of  $82 \pm 2^{\circ}\text{F}$ . for 15 minutes from the time the aerosol mist is introduced.

Observations shall be made as to the number of flies "down" (paralyzed) at 5 and 10 minutes following insecticide application. These observations are especially important because with conventional formulations practically all flies "down" at 15 minutes fail to recover during the 24-hour observation period. At the end of 15 minutes the ports are opened and the chamber is ventilated by means of the exhaust fan while the flies are collected.

The "down" flies are picked up and transferred immediately to clean cages meeting the specifications of Section II, Paragraph D. These flies may be counted when they are picked up or later, depending upon which time is more convenient. During the subsequent 24-hour recovery period, the cage is placed in the rearing room and supplied with an adequate quantity of a 5 per cent sugar solution, arranged so that the top of the dish is not more than  $\frac{3}{4}$  inch above the floor of the cage and the flies cannot drown in it. A gauze-wrapped ball of cotton saturated with 5 per cent sugar solution is also satisfactory.

The "up" (unparalyzed) flies in the chamber at the end of the 15-minute exposure period must be counted and either discarded or captured.

After a test is completed all toxic residues must be removed from the chamber or, if allowed to remain, must be at sufficiently low levels so as not to affect test results. Where chamber surfaces permit, wiping with a clean cloth saturated with alcohol con-



taining 10 per cent acetone will remove a number of toxic residues.

### C. Assembling the Data

THE number of "up" flies must be counted and recorded at the end of the 15-minute exposure period. The dead flies are counted 24 hours ( $\pm 1$  hour) later, preferably by removing them from the recovery cage. Only flies that show no sign of life upon being touched may be counted as dead. If the "down" flies were counted as they were collected, the sum of the "down" and the "up" flies yields the total flies in the test. If the "down" flies were not counted as collected, the recovered flies are killed by placing the cage in an oven at 170° F. for a few minutes, after which they are counted. The sum of recovered and dead flies yields the "down" flies and this sum added to the "up" flies yields the total flies used in the test. The *Aerosol Test Knockdown Mortality* is the per cent dead of total flies. In the *Aerosol Test Knockdown Mortality* calculation, the "up" flies at the end of the 15-minute exposure period are considered to be alive at the end of the 24-hour observation period. The *Aerosol Test Knockdowns* are the per cent "down" of total flies at 5, 10 and 15 minutes.

In the preceding paragraph it is assumed that the "up" flies at 15 minutes are counted and discarded, and not captured and held for a 24-hour mortality observation. If these flies are captured, the *Aerosol Test Mortality* calculation can be made, and this includes the 24-hour dead of the "up" flies. In such a procedure, the captured flies must be held in a separate recovery cage under conditions specified for the "down" flies, and the 24-hour mortality count must be taken in a similar manner. It is also necessary that the TOTA run in conjunction with the so-treated experimental samples receive identical treatment. In reporting results, the above terminology must be rigidly adhered to in order to clearly designate whether the "up" flies were captured and held for observation or whether they were assumed to be alive at 24 hours.

The mortality and knockdown definitions are summarized in equation form as follows:

$$(1) \text{ Aerosol Test Knockdown Mortality} = \frac{\text{Dead "Down" Flies} \times 100}{\text{Total Flies}}$$

$$(2) \text{ Aerosol Test Mortality} = \frac{[(\text{Dead "Down" Flies}) + (\text{Dead "Up" Flies})] \times 100}{\text{Total Flies}}$$

$$(3) \text{ Aerosol Test Knockdown, 5, 10 or 15 minutes} = \frac{\text{"Down" Flies} \times 100}{\text{Total Flies}}$$

### IV. Conditions for Official Evaluation

1. The tests shall be conducted in accordance with the procedure previously described.

2. At least two cultures of flies, meeting Peet-Grady specifications, shall be used in making an official evaluation.

3. Cages showing a combined

#### NAIDM Office Moves

The executive office of the National Association of Insecticide and Disinfectant Manufacturers has moved from suite 1307 to suite 814 at the same address, 110 E. 42nd St., New York. The new quarters are considerably larger than the old office. The telephone number of the Association has been changed to Murray Hill 3-9524-5.

mortality and crippling greater than eight per cent on the day of test shall not be used.

4. In the small group procedure, using approximately 100 flies per test, no more than three unknown samples may be tested in conjunction with one TOTA in any one series. Ten tests are run on the TOTA and on each of the unknowns in parallel; that is, test each spray the same number of times on any one day. The samples of a series must be randomized in the order of testing.

5. The large group procedure using approximately 500 flies per test shall be conducted in the same manner as outlined for the small group procedure with the exception that five rather than ten tests are required.

6. The *Aerosol Test Knockdown Mortality* and/or *Aerosol Test Mortality*, and *Aerosol Test Knockdown* (15 minutes) of the unknown sample shall be reported as "meeting the standard" if its average mortality and knockdown is equal to or greater than that of the TOTA run in con-

junction with it. "Equal to" shall be interpreted as meaning that the results with the unknown do not differ by more than 5 percentage points from the results obtained with the TOTA. If an unknown sample shows a mortality or knockdown less than the TOTA but within the allowable 5 percentage point margin, the average dosage of the unknown must not exceed that of the TOTA.

7. In no case shall numerical values be reported or any letter grade designations be assigned to the test samples as a measurement of the mortality or knockdown.

8. The *Tentative Official Test Aerosol* (TOTA) is restricted to use in the above described procedure and shall be used only as a reference insecticide in house fly aerosol testing.

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Antarox "A-180" was rated 100% non-irritating, and 100% non-sensitizing. All of the 11 other products caused cases of positive skin irritation in varying degrees from 4% to 81%.

The test was carried out according to the approved skin-patch method which has been accepted by soap industries and by government authorities.

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\*Industrial Toxicology Laboratory



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## Carryover and Effect of Quaternary Ammonium Compound in the Standard

# SWAB RINSE TEST\*

By G. M. Ridenour and E. H. Armbruster†

School of Public Health, Michigan Univ.

THE present Swab-Rinse technique<sup>1</sup> which utilizes multiple swabbing for bacteriological examination of food utensils, recognizes that in the use of chlorine bearing sanitizers enough chlorine may be carried over by the swab to render the rinse solution bactericidal. For that reason, sodium thiosulfate is required as a neutralizer in the swab rinse solution. The present procedure also states that if quaternary ammonium compounds are used in the sanitizing bath, any possible bactericidal or bacteriostatic action in the swab rinse should be eliminated. It is suggested this be done by either (1) shaking the swab vial vigorously to allow full advantage of the dilution factor, or (2) adding sufficient specific quaternary neutralizer to the buffer solution before plating. However, no specific neutralizer is recommended for the quaternary compounds.

While the possible need for neutralization of the quaternary sanitizer in the swab rinse test is thus recognized, a survey of the literature shows limited information on either the extent of quaternary carryover or the effect of known neutralizers when incorporated in either the rinse solution or media of the standard swab rinse test.

In view of the lack of data, studies using the standard field swab-

bing procedure under controlled laboratory conditions were instituted to obtain more information on: (1) the definite need for neutralizers in the standard swab rinse buffer solution, (2) the efficacy of certain more promising quaternary neutralizers when used in connection with the swab rinse test, and (3) the sanitizing efficiency of certain quaternaries under a controlled practical performance laboratory test, with bacteriostatic and bactericidal carryover effect in the swab rinse solution reduced to a minimum.

### Extent and Effect of Quaternary Carryover in Standard Swab Rinse Solution

THE need for neutralizers in the standard swab rinse test was investigated by (a) measuring the amount of quaternary carried over to the rinse vials by the swabs and (b) the effect of carryover, if any, on bacterial results.

In the investigation a series of clean glasses were dipped in a 200 ppm quaternary sanitizing bath and swabbed

immediately according to the recommended standard procedure of one glass per ml. of rinse solution in the swab vials. Chemically recoverable carryover of quaternary for each of several different compounds was then measured by anionic titrations<sup>2</sup> of the vials.

The germicidal action of quaternary carryover was measured by a bacteriological test. The bacteriological test consisted of adding one ml. test organisms, washed from a 24 hour slant, to 10 ml. of the quaternary dilution. One milliliter of this medication mixture was withdrawn at consecutive intervals of time and placed in nine ml. dilution blanks. These were plated immediately on nutrient agar. Table I is representative of the chemical and bacteriological results of a series of tests when *Staphylococcus aureus* and *Escherichia coli* were used as test organisms.

These data show that the carryover by the swab rinse test from the sanitizing bath may, by chemical titration, be as high as 10 ppm. Also as

TABLE I  
Chemical carryover and bactericidal action of alkyl dimethyl benzyl ammonium chloride at 20° C.

Chemically Measured Carryover	Staph. Aureus		E. coli	
	10 ppm	5 ppm	10 ppm	5 ppm
Control	41,000,000	41,000,000	1,450,000	1,450,000
1 minute	25,000,000	40,000,000	1,260,000	1,050,000
60 minutes	2,700,000	29,000,000	670	440,000

\* Presented November 11, 1948 before the Food and Nutrition, Health Officers, Laboratory and Engineering Sections of A.P.H.A. Meeting.  
† This project was made possible through a grant from the National Sanitation Foundation.

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little as five ppm of the sanitizer may in one hour give a high rate of kill. According to these investigations, this amount is generally exceeded in the present swabbing procedure. The effect of this amount of carryover is in close agreement with recent studies by Weber and Black<sup>3, 4</sup> in which they plotted killing curves for different quaternaries and demonstrated that it is possible to obtain a 50 per cent reduction of *E. coli* in two minutes with as little as three ppm alkenyl dimethyl ethyl ammonium bromide. From these data it seems obvious that the elimination of quaternary carryover is needed in the swab rinse buffer if reliable results of sanitization measurements are to be obtained.

#### The Effect of Dilution and Neutralizers on Quaternary Carry-over

MUELLER and co-workers<sup>5</sup> found that sodium naphuride, while not effective for all organisms, was the most satisfactory inactivator of a group which included bentonite, activated charcoal, turkey red oil, U.S.P. castile soap, tincture of green soap, "Duponol P. C.," and other anionic surface-active agents. Weber and Black<sup>3</sup> in studies on the interruption of killing curves stated that lecithin or certain other inhibitors might be employed satisfactorily in the swab rinse buffer solution for use with food utensils which have been sanitized in quaternary ammonium germicides.

From a series of screening tests the authors selected sodium naphuride and "Asolectin" as showing most promise. The "Asolectin" is a purified soya phospholipid having a higher solubility than most lecithins. These sub-

stances were incorporated in the buffer water and compared with controls which also included dilution effects. A performance test embodying the actual conditions of field sanitization and swabbing was used to compare the effect of dilution and buffer neutralizer.

In this test, chemically clean and sterile drinking water glasses were dipped in a bath of reconstituted canned condensed milk seeded with *Staphylococcus aureus*. An organism readily found on soiled utensils, *Staph. aureus* was chosen as the test organism because its pigment production made it easily identifiable on agar plates. Easy identification was an essential requirement as aseptic conditions are not practical in this type of a test. Also, *Staph. aureus* is one of the more susceptible organisms to bacteriostasis since less than one ppm of some quaternaries will inhibit its growth completely<sup>6</sup>. Milk was used as a soil in this instance as it presented a condition which would ensure a high percentage survival of organisms.

The sanitizing bath consisted of eight liters of distilled water made up to 200 ppm with quaternary to be tested. This bath was buffered to a pH of 7.4 with 75 ppm  $\text{NaHCO}_3$  in order that all compounds could be tested at the same pH. Previous work had shown this buffer to have little or no effect on the germicidal efficiency of the quaternaries. The temperature was held at 20° C.

In the testing procedure, glasses were contaminated by dipping in the contaminating soil, allowed to drain rim down on blotting paper for 30-60 seconds and then turned rim up and

the film allowed to dry for 20-30 minutes.

The soiled glasses were then dipped in the sanitizing bath for 15 seconds and swabbed immediately upon removal by the standard swabbing technique. Groups of 50 glasses, with five glasses per five ml. swab vial, were used. Group A was swabbed with the standard buffer solution without any neutralizer. In this group any carryover would depend on dilution for dissipation. Group B was swabbed with the buffer solution plus 100 ppm of "Asolectin" as a neutralizer. Group C was swabbed with buffer solution plus 200 ppm sodium naphuride as the neutralizer. These neutralizers namely, "Asolectin" and naphuride, were included in the swab rinse solution in the usual manner of addition of thio-sulfate for chlorine neutralization. Each swab vial was thoroughly shaken and the rinse buffers plated in one ml. and 0.1 ml. volumes with nutrient agar. About 15 minutes elapsed between sampling and plating.

An additional modification of neutralizer location was also tried in this same series of tests. This employed the plating of parallel dilutions of the same rinse buffers with nutrient agar containing "Tween 20" (1%) and "Asolectin" (100 ppm). This addition was prompted by the observation in this laboratory that inactivators in the swab rinse solution only were not always completely effective.

Table II gives the results of this test using alkyl dimethyl benzyl ammonium chloride as the sanitizer. Though the data are not shown, other quaternaries have demonstrated patterns similar to this compound.

TABLE II

Average counts of groups of 50 soiled glasses swabbed with standard buffer and quaternary inactivators using Nutrient agar and Tween-Asolectin agar

Volume Swab Solution Plated	Nutrient Agar				Tween-Asolectin Agar			
	1 ml.	0.1 ml.	1 ml.	0.1 ml.	1 ml.	0.1 ml.	1 ml.	0.1 ml.
Rinse Solutions	Colony Count per Plate	Count per Glass	Colony Count per Plate	Count per Glass	Colony Count per Plate	Count per Glass	Colony Count per Plate	Count per Glass
A. Buffer only	0	0	10	100	10	10	11	110
B. Buff + "Asolectin"	9	9	18	180	191	191	24	240
C. Buffer + naphuride	0	0	53	530	567	567	61	610

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TABLE III

Bactericidal action of various sanitizers against *Staphylococcus aureus* as measured by Performance test with 15 second exposure at 20°C.

Test Conditions	ppm Sanitizer	alkyl dimethyl benzyl ammonium chloride		para-di-iso butyl ethoxy dimethyl benzyl ammonium chloride		acyl-colomino-formyl-methyl pyridinium chloride		alkyl dimethyl ethyl ammonium bromide		sodium hypochlorite* (pH 10.4)	
		Average Count per Glass	% Reduction	Average Count per Glass	% Reduction	Average Count per Glass	% Reduction	Average Count per Glass	% Reduction	Average Count per Glass	% Reduction
Saline Soil	Control	40,000		17,500		20,000		11,000		17,000	
	50	5,000	87.5	3,300	81	3,600	82	3,500	68	1,100	93.3
	100	410	99.0	180	99.0	1,400	93.1	292	97.3	340	98.0
	150	45	99.9	60	99.7	650	96.8	16	99.9	25	99.9
	200	30	99.9	3	99.9	730	96.4	10	99.9	2	99.9
Saline Soil 100 ppm Calcium in Sanitizer	Control	13,000		16,100		19,300		14,500		10,500	
	50	7,100	45	3,400	79	14,000	28	6,300	57	285	97.3
	100	580	95.5	425	97.4	6,900	64	1,400	90	43	99.6
	200	4	99.9	9	99.9	1,200	91.4	63	99.6	10	99.9
	Control	19,800		25,500		20,000		20,000		31,800	
Milk Soil	100	10,200	49	13,000	49	12,600	36	10,000	50	11,700	63
	200	4,300	78	6,100	77	9,300	53	8,500	57	2,700	91.4

\*measured by orthotolidine

These data reemphasize the facts shown in Table I that (1) a neutralizer is needed in the swab rinse test when it is used in conjunction with cationic sanitizers and (2) the dilutions called for in the standard procedure do not eliminate the carry-over effect. A comparison of the 0.1 ml. nutrient agar plates of standard buffer solution and naphuride buffer gave colony counts of 10 without the neutralizer against 53 with the naphuride or a five fold increase when the neutralizer was used.

However, neither of the neutralizers which has been considered most practical for incorporating in the swab rinse buffer, gave the completeness of reaction necessary to prevent a partial bacteriostasis. The naphuride one ml. plain agar plate gave a bacteria count of 0 organisms per glass, while the 0.1 ml. plate gave a count of 530 per glass. "Asolectin" showed the same lack of completeness of neutralization with utensil counts of nine and 180 in the one and 0.1 milliliter portions, respectively.

However, when "Tween 20" and "Asolectin" were added to the plating agar the counts in the one milliliter portion showed an increase over that of the neutralized buffer solution in similar one milliliter portions plated with plain agar. Also, bacterial counts were approximately the same for either the one or 0.1 milliliter portions from neutralizer buffers with "Tween 20," "Asolectin" agar, indicating bacteriostasis was reduced to a minimum.

On the basis of recoverable organisms the naphuride buffer—"Tween,"—"Asolectin" agar combination demonstrated superiority in eliminating bactericidal and bacteriostatic effects of quaternary carryover.

Usually the laboratory cannot plate the samples immediately after collection. Therefore, in several of the above studies the plating was done both immediately and after a 24 hour period of refrigeration. The over-all plate count patterns remained the same regardless of time up to 24 hours, with naphuride buffer solution used in conjunction with "Tween,"—"Asolectin" agar, giving the truest picture of viable organisms of the utensil at time of swabbing.

#### Re-examination of Quaternary Efficiency Simulating Field Use and Test Conditions with Modified Test Agar.

**I**N VIEW of the observed effect of this modification in the use of swab rinse neutralizers on recoverable organisms, it was thought advisable to retest by the performance test previously outlined, some typical quaternaries now in use as sanitizers, using the modified swab rinse-media for testing.

Four quaternaries: (1) alkyl dimethyl benzyl ammonium chloride, (2) para-di-iso butyl phenoxy ethoxy dimethyl benzyl ammonium chloride, (3) acyl colomino formyl methyl pyridinium chloride, and (4) alkyl dimethyl ethyl ammonium bromide were tested along with a sodium hypo-

chlorite sanitizer, by the performance test previously outlined. Naphuride was used in the swab solution for the quaternaries and sodium thiosulfate for the hypochlorite. "Tween" and "Asolectin" were used in the plating medium throughout.

The conditions of these tests included: (a) absence of organic soil on glasses and absence of minerals in sanitizer bath, (b) presence of 100 ppm calcium in sanitizer to simulate a hard water, and (c) the presence of organic soil on glasses as typified by milk. These results are tabulated in Table III.

In the absence of organic soil or water hardness in the form of calcium, three of the four quaternaries gave satisfactory glass counts with 150 ppm sanitizer in the bath and 15 second sanitization periods. The same concentration of a commercial hypochlorite sanitizer was required for equal results. Even in the presence of 100 ppm calcium ions, certain of the quaternaries gave a kill of better than 99.9 per cent in the 15 seconds test interval. The fourth quaternary failed to give satisfactory results even in the absence of calcium or organic matter.

Organic matter in moderate to large amounts affected the action of all compounds, including hypochlorite, emphasizing the fact that sanitation cannot be used as a substitute for thorough washing, but merely an adjunct to a complete job of making multiple use utensils safe for public usage.

(Turn to Page 147)

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Newly elected officers and directors of the National Sanitary Supply Association gather for their first meeting at the Sherman, May 11.

## N.S.S.A. Meets; Elects Lien

**D**ISCUSSION of plans for expanded future activities, with main emphasis on training, the election of Carl B. Lien, Lien Chemical Co., Chicago, as president and the changing of the organization's constitution and by-laws to provide two year terms for directors highlighted the 26th annual convention and merchandise exhibit of the National Sanitary Supply Association, held at the Hotel Sherman, Chicago, May 8-11. In addition, a progress report was given on the association's sound-color film, "The Care and Maintenance of Soft Floors," which is expected to be completed shortly. The three-day "Institute of Sanitation and Modern Cleaning Methods," sponsored by the N.S.S.A. was reported on, and the possibility of holding one day clinics in various cities throughout the U. S. by means of a "Sanitation Caravan" was also discussed at some length. Also featured at the general meetings were the reports of the president, executive vice-president and the treasurer. In general, most of the discussion at the two general sessions was devoted to association affairs.

Registration for the 1949 convention, passing the 3,000 mark, was greater than last year, as was the

number of exhibits—about 120.

Changes in the executive personnel were voted at the meeting and included the election of Al Candy, Jr., Candy & Co., Chicago, as vice-president, and Lacy E. Crain of Conco Chemical Co., Dallas, Tex., as secretary of the board. Mr. Crain succeeds Martin J. Peters of Moore Brothers Co., New York, while Mr. Candy fills the spot vacated by Carl B. Lien, new president. A change in the constitution and by-laws of the association providing for the election of two new directors each year to serve two-year terms, rather than electing each year an entire new set of directors to serve one year terms was effected without opposition at the meeting. It was also voted to reimburse directors for travelling expenses to one major board meeting during the year.

Regional vice-presidents elected at the meeting include: Jacob Kahn, Windsor Wax Co., Hoboken, N. J., eastern; S. S. Hockwald, S. S. Hockwald Chemical Co., San Francisco, western; (reelected) John Walsh, Tesco Chemical Co., Atlanta, south-eastern; I. V. Dreyfus, Dreyfus Janitor Supply, Ponca City, Okla., south-western; (reelected) Charles S. Buschart, U-San-O Corp., St. Louis, central.

Named directors were: Elmer H. Bard, Geerpres Wringer, Inc., Muskegon, Mich.; William O. Conley, Conley Chemical & Supply Co., Spokane, Wash.; Edward A. Hale, Hale Sanitary Supply Co., Albuquerque, N. M.; Jack Doyle, Doyle Vacuum Cleaner Co., Grand Rapids, Mich., and Leo Peck, retiring N.S.S.A. president who automatically becomes a director.

A feature of this year's four day meeting were group luncheons on Monday and Tuesday, May 9 and 10, which were immediately followed by the general discussion sessions held during the afternoons of the two days. Leo Peck, who presided at both sessions, called the convention to order following luncheon, Monday, May 9. The invocation was then given by Brigadier Dallas Leader of the Salvation Army. Mr. Peck then introduced the officers and directors of the association, after which he presented John Nolan, convention manager of the Sherman, who welcomed the group on behalf of the hotel and presented Mr. Peck with a gavel for the N.S.S.A.

In his president's address, Mr. Peck pointed out that the 1949 convention is the first in many years with business on a really competitive

basis. He complimented the organization on its spirit of cooperation in the midst of a return to competition and added that helpfulness among members will be a "strong influence in preparing each one of us for the business road ahead." Mr. Peck then went on to review the highlights of N.S.S.A. activities during the past year, including the regional meetings in San Francisco, Los Angeles and New York. The local monthly group meetings in New York, St. Louis, on the West Coast and in Boston were also singled out for mention by Mr. Peck. The work of the association's headquarters in Chicago was praised by the speaker, who went on to outline some of the details behind the new floor care training film as an illustration of the type of service the N.S.S.A. is trying to render to its members.

The downward trend of business during the first three months of 1949 failed to stop an increase in the sales of liquid soaps by his own firm, according to Mr. Peck, as a result of a progressive sales program. "It is my contention, as well as the contention of many others with whom I have spoken in our industry, that only the surface has been scratched in the sale of our products. We haven't even begun to do a real selling job on sanitation," Mr. Peck declared.

As a method of reducing overhead, he suggested consolidation of some of the related trade associations with the N.S.S.A., with divisions or groups for manufacturers of similar

merchandise. Each group could have its own chairman, special letterheads, if desired, etc. The plan, Mr. Peck pointed out, is an idea to consider for the future, and the details of which the officers and board of the N.S.S.A. would be glad to work out with interested groups.

In concluding, Mr. Peck made a plea for members to sell the idea of sanitation, since all types of buildings and institutions are in need of sanitation help and products. "After all, 90 per cent is spent in labor and 10 per cent in products. Let us all get the 10 per cent—let us get all of that sanitation dollar, and better still, let us give the public its health and protection," he urged.

The next speaker, Carl B. Lien, vice-president of N.S.S.A., stressed the need today to get out and sell products. In discussing the formation and history of the N.S.S.A., he compared it to an orchestra in which members played the instruments and the executive vice-president, Leo J. Kelly, wielded the baton and maintained the harmony and progress needed to make the association successful.

Leo Kelly, executive vice-president of the association, in his report urged those attending the meeting to visit all the exhibits and discuss their problems with manufacturers. "When the manufacturer knows fully all the problems confronting you who must dig up the business and create the sales, then he may be able to better his product, make some change in his

sales policy and otherwise help you (as a distributor) do a better job," Mr. Kelly stated. He then reviewed the advertising program of the association, listing the magazines in which N.S.S.A. advertisements have appeared. These advertisements featuring the N.S.S.A. emblem have been brought before an audience of 764,739 readers, based on magazine circulation. Much favorable newspaper and radio publicity has accrued to the association, according to the executive vice-president. The association's emblem and sticker were credited by the speaker with producing letters to the N.S.S.A. from the governor of Illinois, the mayor of Chicago and the head of the Chicago board of health, congratulating the association on its efforts to improve sanitation and methods of sanitation. Other association activities and ideas, including the lapel buttons, "News & Views" and "Sanitary Supply Selling," distributed by the N.S.S.A. and trips by Mr. Kelly to various affairs involving association members or their products were recounted by the speaker, who urged manufacturer and distributor to cooperate for their own best interests. The response to regional meetings and the Institute of Sanitation and Modern Cleaning Methods was praised by Mr. Kelly.

The state of the treasury was discussed by Donald F. Peatee of Mellocraft Co., Toledo, who reported that the association's net cash balance of May 1, 1949 was \$63,536, of which \$20,000 is a reserve fund consisting

President  
CARL LEIN



Vice-President  
AL CANDY, JR.



Secretary  
LACY E. CRAIN



of two \$10,000 government bonds.

The changing of the constitution and by-laws of the association to provide for two year terms for directors, instead of one year terms, was voted unanimously. This year two directors were elected for two year terms and two for one-year terms so that in the future two directors will be elected for two year terms at each annual meeting. In addition it was voted to pay traveling expenses of directors to one major board meeting each year.

Following the appointment of the nominating committee, whose chairman was Lacy E. Crain of Conco Chemical Co., Dallas, Mohe Solworth of Industrial Sanitation Counsellors, Louisville, Ky., discussed the preparation and background of the film on "Care and Maintenance of Soft Floors." The final shooting for the picture was to have been completed May 11. When completed, it will be available for showing before N.S.S.A. groups throughout the U. S. The picture is in sound and color and runs for about 22 minutes. A booklet supplementing the film will also be available for distribution. It contains photographs based on stills from the pictures and gives more detailed information on several phases of floor care and maintenance than was possible in the film.

The final discussion of the May 10 session dealt with a plan to produce suppliers' catalogs on a group basis. The plan, as explained by Irving Anderson of Catalog Engineering Co., Chicago, calls for a central library of pictures and information of products usually listed in suppliers' catalogs. The library would be brought up to date from time to time, as new products or new product information were made available by manufacturers. Photographs and information on about 1,600 items would be filed in the library. Suppliers wishing to have a catalog produced would indicate what items from the library they would use. Catalog Engineering Co. would design catalog pages of these items, plus any private label products sold by the supplier, photographs and information on which the supplier would have to furnish. The

catalog would then be submitted to the supplier for his approval or suggestions or corrections. Catalogs would be produced by offset lithography. According to Mr. Anderson it would take about 11 working days to produce a catalog. The cost for 1,000 copies of a 32-page catalog, of which eight inside pages and the covers would run in color, would be \$1,100; a 64-page catalog would cost \$1,700. The cost of setting up a library would be \$15,000, which would be put up by the N.S.S.A. The association would receive 10 per cent of the cost of each catalog printed, the money going toward the repayment of the \$15,000 put up by the N.S.S.A. A decision on the project is expected to be announced shortly by the N.S.S.A., based on the attitude of the general membership and the association's board of directors.

The second general discussion session opened Tuesday afternoon, May 10, following a group luncheon. Mr. Peck presided at the session, which began with a report of the nominating committee, presented by William H. White of Wilwite Associates, Oakland, Calif. Mr. Peck then introduced the new officers and directors. The new president, Carl B. Lien, spoke briefly and thanked the members for honoring him.

Mohe Solworth, reporting on the success of the three day "Institute of Sanitation and Modern Cleaning Methods," held in Chicago Apr. 4-6, at the Hotel Sherman, discussed the possibility of one-day sanitation clinics. These clinics could be held in major cities in the U. S., to which a "caravan" might be sent. Clinics would deal with one topic, such as floor care, and might return to the cities six months later to cover another phase of sanitation. The cost of the clinics would vary, depending on the number to be presented. However, it was estimated by Mr. Solworth that the cost would be from \$2.50 to \$4 per person. A crew of three or four persons would be needed, including two lecturers, a demonstrator assistant and possibly one other person. The "caravan" would have all of its own equipment, and preferably clinics would be held in areas

having at least 10 members. Such training courses of one day duration have been found to be extremely valuable both for the supplier's sales personnel and users of sanitary supplies and their staffs, Mr. Solworth stated.

Three motion pictures concluded the May 10 afternoon session. A film on the southern regional meeting in New Orleans taken by Charles S. Buschart of U-San-O Corp., St. Louis, was shown and commented on by Joseph Lassen of American Chemicals Co. of Louisiana, New Orleans, southwestern regional vice-president of the N.S.S.A. A sound motion picture in color on dishwashing, produced by the Sanitation Research Foundation at the University of Michigan, and one on the fly, made available through the U. S. Public Health Service, were also shown.

The annual banquet and entertainment, for which Mal Flanagan of Federal Varnish Co., Chicago, was chairman, was held the evening of May 10, in the grand ballroom of the Sherman. Dancing followed the dinner and entertainment.

**M**ANUFACTURERS and distributors of janitor equipment and supplies, numbering 120, filled all available display space in exhibition hall of the Hotel Sherman, the mezzanine floor and a portion of the ball room. In addition, a number of others were showed their wares in sample rooms in the hotel. The show was probably the most extensive exhibition of tools for the sanitary maintenance industry ever brought together under one roof. Following is the list of exhibitors, the principal products shown in their respective booths and names of those in charge.

American Textile Products Co., Cleveland; mops, swabs, wax applicators, H. J. Lehman, president, Allison S. Lowe, sales manager.

Doyle Vacuum Cleaner Co., Grand Rapids, Mich. Vacuum cleaners for industrial and institutional use. Jack Doyle, vice president, H. F. Arnold, sales manager, Clifford Boyce, advertising and promotion, Clifford F. Kennedy, manufacturer's representative.

Harley Soap Co., Philadelphia. Industrial bar, paste and liquid soaps, disinfectants, degreasing compounds, etc. Robert Solly, C. B. Solly, Murphy Cohen.

Bobrick Mfg. Corp., Los Angeles. Dispensers for liquid and powdered soaps, a new lotion dispenser, a new lather dispenser and tank-type gravity feed systems. Gordon S. Bodek, sales manager.

Chemical Service of Baltimore, Baltimore. "Lab" products line, including anti-slip floor cleaning materials, waxes, etc. Ber-



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ard Freudenthal, president, Lou Ruff, assistant.

Oil-Dri Corp. of America, Chicago. Oil absorbent floor sweeping compounds, Ted Mannon.

Personal Sales, Chicago. Sanitary napkins and vendors, T. B. Ryno.

Super Products Co., Chicago. Drain pumps, Alexander S. Flett.

Goodfrend Metal Products Co., Chicago. Sand urns, towel cabinets, waste baskets, deodorant holders, dust pans. B. Goodfrend, sales manager.

France Broom Co., Paxton, Ill. Brooms. Joseph Ordens, vice-president.

Hilger Co., St. Cloud, Minn. Floor maintenance equipment, polishers, sanders. W. P. Hilger, president, H. S. Stickney, vice-president, E. H. Knese, E. J. Biehl.

Burcott Mills, Chicago. Wiping cloths. Roy C. Kincaid, sales manager, Howard Werth.

Holt Mfg. Co., Newark, N. J. and Oakland, Calif. Floor sanding and maintenance machines, supplies and accessories. H. R. Wiltermood, vice president, L. W. Morris, sales manager.

Flour City Brush Co., Minneapolis, Minn. and its affiliate, Pacific Coast Brush Co., Los Angeles. Brushes of all types. Robert C. Olson, sales manager.

Rex Cleanwall Corp., Brazil, Ind. Floor maintenance equipment, rug shampoos, cleaners, etc., J. H. Longshore, president, Ira H. Englehart, vice-president.

Golden Star Polish Mfg. Co., Kansas City, Mo. Mops, polishers, dusters, dust cloths, cleaners, waxes, etc. Lee Gradinger, president, Earl T. Asel, sales manager.

Tech Soap Mfg. Co., Chicago. Potash soaps, oil soaps, deodorants, rug cleaners, carpet shampoos. H. L. Aronson, president, H. L. Aronson, Jr., secretary.

Allied Block Chemical Co., Pittsburgh, Pa., deodorants. Tod Dobkin, president, Max H. Halpin.

Ironal Corp., Dayton, O. Glass washing brush. Urban Gochel, president, Lou Pollock, vice president and sales manager.

Beckley-Cardy Co., Chicago. Erasers and eraser cleaners. W. L. McCabe, H. Howard.

Sani-Brite Products Co., Battle Creek, Mich. "Swish" bowl cleaner, shown for first time. Richard Beckett, president, Robert J. Hart, sales manager.

Hydro Mist, Glendale, Calif. Electric steam vaporizing and insecticide dispenser. L. W. Campbell, director of sales.

National Brush Co., Aurora, Ill., and affiliate, Ransom Brush Co., Chicago. Domestic and industrial brushes. Albert W. Elliott.

S. C. Johnson & Son, Inc., Racine, Wis. Waxes. Robert F. Gardner.

Kent Co., Rome, N. Y. Floor scrubbing machines, electric moppers, dry vacuums. Gordon E. Kent, president and general manager.

American Sponge & Chamois Co., New York, sponges, chamois cloths, car wash mitts. Paul L. Mansell and E. C. Riley, vice presidents.

Howard Dustless Duster Co., Boston. Dusters, mops, dust cloths, janitor supplies. J. H. Stillbach, president.

U. S. Sanitary Specialties Corp., Chicago. Soap dispensers, block containers, toilet

tissue fixtures, etc. T. E. Lapedz, manager, jobber sales.

Greenview Mfg. Co., Chicago. Squeegees, floor scrapers, window cleaners. Herman Siemund, president, Harold Clark, sales manager.

Candy & Co., Chicago. Waxes, floor polishers, cleaners and kindred products. A. T. Candy, Jr., R. M. Lockhart.

American Floor Surfacing Machine Co., Toledo, O. Floor maintenance equipment. H. F. Horton, factory sales dept.

Haag Labs., Inc., Blue Island, Ill. Liquid soaps. Vernon W. Haag, president, Ralph F. Haag, sales manager.

American Standard Mfg. Co., Chicago. Wet mops, dusters, lambs wool applicators. Chas. E. Krebs, president, Walter O. Krebs, vice president.

Protecto Products Co., Pomona, Calif. Dispensers, toilet seat covers, Louis Clark, president.

James Varley & Sons, St. Louis, Mo. Sanitary chemicals. Jack Varley, vice president, James Varley.

Windsor Wax Co., Hoboken, N. J. Complete line of waxes and anti-slip floor materials. "Kare" a new insecticidal floor wax product which contains chlordane. Jacob Kahn, president.

Wear-Proof Mat Co., Chicago. Rubber floor runners. Herbert Soellner, sales manager.

Ponsell Floor Machine Co., New York. Floor maintenance equipment. Robt. A. Ponsell, president, R. S. Drake, sales manager, J. W. Spencer, sales promotion.

Colgate-Palmolive-Peet Co., Jersey City, N. J. Soaps, soap products, synthetic detergents. J. M. Geist, general sales manager.

Advance Floor Machine Co., Minneapolis. Floor scrubbing and polishing machines. Robert Pond, vice president, Daniel Arones, engineer.

Robert Mfg. Co., Chicago. Plastic protective clothing, coco and rubber link mats. Robert Eidinger, president and sales manager.

Curley Co., Inc., Philadelphia, Pa. Sanitary chemicals, liquid and paste soaps, floor waxes, cleaners. Featuring "Norwood" toilet sets for men and women, as premium offers by distributors to their janitor customers. Franklin Levin, president, Maurice Bergman, vice president, sales.

Pullman Sales Corp., Boston. Industrial vacuum machines. James Berns, assistant to the president.

Pino-O Pine Co., of Texas, Houston. Showing a new pine-type disinfectant. J. E. Stratford, president.

American Brush Corp., Chicago. Brushes and wall papering tools. T. W. Evans, Jr., sales manager.

Ex-Cell Products, Chicago. Sand urns and maid's baskets. Mort Goldberg, president.

Zelinkoff Co., Wichita, Kans. Dusting and scrub mops, dust cloths, wash mitts. M. A. Zelinkoff, president.

Deshler Broom Factory, Inc., Deshler, Nebr. Brooms and whisks. Milton E. Beckher, sales manager.

Mione Mfg. Co., Collingdale, Pa. Powdered and paste hand soaps. C. V. O'Donnell, sales manager.

Superior Rubber Mfg. Co., Chicago. Rubber link mats, sponge base rubber tile, etc. C. J. Wood, president.

Steccone Products Co., Oakland, Calif., squeegees. E. Steccone, proprietor.

H. U. Mann Co., Chicago. General Electric industrial and commercial cleaner. H. U. Mann, president, assisted by Chet Willetts of Willetts, O'Neil Co., Washington, D. C.; Malcolm Zucker, State Chemical Co., Cleveland, O.; David Kreekum, Standard Chemical Co., St. Louis, Mo.; and M. O. Johnson General Electric Co.

Paper Container Mfg. Co., Chicago. Paper cups. Philip Allen, district sales manager, Donald Iletts, advertising manager.

Solvay Sales Div., Allied Chemical & Dye Corp., New York. Basic alkalis, synthetic detergents. George V. Bates, Jr., in charge, special products dept.

Silver Brush Works, Chicago. Brushes. J. Silvers, president.

Piedmont Mop Co., Charlotte, N. C. Cotton yarn mops. J. B. Choates, president, L. E. Scott, sales manager.

United Sponge Co., Chicago. Sponges and chamois cloths. Jos. Schwartz, president.

Hospital Specialty Co., Cleveland. Dispensers and sanitary napkins. J. F. Fillebraun, Chicago, Samuel Toder, N. Y., Irving Kane, Louis Emsheimer, and Bob Friedman, Cleveland.

Professional Window Cleaners Supply Co., Detroit. Brushes and squeegees. Edward W. McIntosh, sales manager.

General Floor Craft, Inc., New York. Industrial floor maintenance machines, home floor conditioner. Jos. Sassano, president, Walter J. Sassano, treasurer, S. J. Rosenthal, sales manager.

Rubon Products Co., Kansas City, Mo. Dust mops and polishes. J. H. Johnson, vice president and general manager.

Essential Chemical Co., Milwaukee. Paste, powder and liquid soaps. J. H. Wheeler, Sr., president, J. H. Wheeler, Jr., sales promotion.

Shore Metal Products, Los Angeles. Janitor supplies. Philip Shore.

American Dispenser Co., New York. Soap dispensers. Burton L. Feinson.

Schroeder & Tremayne, Inc., St. Louis, Mo. Sponges, chamois, wash mitts. Jack Schroeder, vice president.

Peck's Products Co., St. Louis, Mo. Soaps, insecticides, disinfectants, detergents, buckets, garbage cans, etc. Leo Peck, president.

Illinois Duster & Brush Co., Chicago. Brushes, dust mops. E. J. Malmstrom, sales manager.

Warren Haviland Corp., St. Louis, Mo. Squeegees. W. E. Haviland.

Dash Metal Products Co., Brooklyn, N. Y. Dispensers for paper towels and toilet tissue. Louis Scheinberg.

Baird & McGuire, Holbrook, Mass. Sanitary chemicals, disinfectants, insecticides, floor cleaners, etc. Gordon Baird, president, Ann Minns.

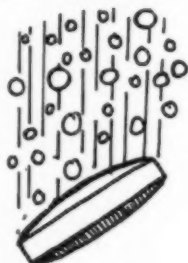
Federal Varnish div. Chicago. Floor seals and finishes. J. H. Lawson, executive vice president, Mal J. Flanagan, vice president and sales manager. Edw. Lee, western sales manager.

Chicago Sanitary Products Co., Chicago. Industrial soap products. C. R. Lichten-

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Lincoln-Schlueter Floor Machine Co., Chicago. Floor scrubbers, polishers, sanders, waxers. Larry E. Johnson, district sales manager.

S. M. Arnold Co., St. Louis, Mo. Imported and domestic natural and cellulose sponges, shearing items, chamois. S. M. Arnold, president.

Tesco Chemicals, Inc., Atlanta, Ga. Chemicals, soaps and alkalies. John Walsh, president, J. W. Girvin, sales manager.

Allen Filter Co., Toledo, O. Water coolers. R. Burkit, sales manager.

Hild Floor Machine Co., Chicago. Floor maintenance machines, rug and carpet shampoo machines. Fred C. Hild, president and Mrs. Hild.

Clarke Sanding Machine Co., Muskegon, Mich. Floor maintenance equipment. Ernest Cooper, president. G. W. Skilliter, sales manager, Marion Davis, ass't sales manager, Harry L. Potter, advertising and promotion manager.

Miersen Products Co., San Francisco. Metal waste receptacles. H. J. L. Baum, vice-president and sales manager.

Nassau Sponge Co., Chicago. Natural and cellulose sponges, domestic and imported chamois. Robert S. Rosenfels, president.

Finnell System, Inc., Elkhart, Ind. Floor maintenance equipment, chemicals and soaps. J. L. Anderson, national sales executive.

Atlantic Stamping Co., Rochester, N. Y. Mopping equipment and galvanized ware. M. J. Dowling, vice president, E. C. Counsell, C. J. Dygert.

Economy Mop Wringer Co., Chicago. Mop wringers and handles. A. Slutzky, proprietor.

Tu-Way Products Co., Detroit, Mich. Dust mops. W. H. Jones, proprietor.

Davies-Young Soap Co., Dayton, O. Liquid soaps, waxes, etc. E. G. Eckerman, vice president and general sales manager. H. G. Young.

International Metal Polish Co., Inc., Indianapolis, Ind. Waxes and polishes. R. A. Blackburn, sales manager.

Frank Miller & Sons, Inc., Chicago. Floor sweeping compounds. George Breusch.

American Specialties Co., Amherst, O. Automatic liquid floor wax applicators. Joseph A. Ignat, sales director.

Fuld Bros., Inc., Baltimore, Md. Complete line of maintenance products. Joseph Fuld, vice president and treasurer.

Lily-Tulip Cup Co., New York. Paper cups, dispensers and holders. Scott W. Bates, manager, wholesale dept. Wm. Morgan and Richard Philpott, Chicago.

Laitner Brush Co., Detroit, Mich. Floor, window, counter and fountain brushes. Carter Laitner, sales manager, Wm. Laitner, advertising manager, Wm. Nissen, J. V. Grady.

T. F. Washburn Co., Chicago. Floor maintenance products. M. L. Magee, vice president.

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# Institute Explains Sanitation

By H. H. Slawson

THE National Sanitary Supply Association's Institute of Sanitation and Modern Cleaning Methods, held in Chicago recently, made a substantial contribution to a clearer understanding of what systematic application of scientific sanitation can accomplish in the varied activities of today's world. The three-day meeting at the Hotel Sherman was devoted to a comprehensive presentation of the latest information on modern cleaning and sanitation methods, based on successful experience with up-to-date programs put into practice by industrial plants, hotels, hospitals, academic institutions, food dispensing agencies, transportation companies, public and office buildings and others.

The attendance figure of nearly 200 indicated a pronounced interest in sanitation and an eagerness to learn how the job can be done effectively in the modern way. The program had been prepared to appeal to executive personnel, purchasing agents, safety and maintenance engineers, industrial hygienists, administrative, industrial and institutional housekeepers, responsible for sanitary conditions in their respective domains. All of these various categories were represented in the enrollment and the number of women participating was especially noteworthy.

"Sanitation can be purchased like any other commodity," was the general theme of the discussions which were presented by representatives of Industrial Sanitation Counsellors, Louisville, Ky. Under the "packaged sanitation" system now coming into general use, Mohe H. Solworth of this organization, explained in his introductory remarks, sanitation programs are "tailored" to fit the situation as it is found in factories, hotels, hospitals, etc. Programs are developed to fit the means available for the purposes sought.

The problem, he pointed out, is to bring about a realization of the need

for systematic sanitation and to convey a knowledge of the availability of modern and efficient equipment and supplies to satisfy those needs. Support of the principles which the NSSA Institute was seeking to present, he said, has long been a foremost purpose of many trade publications, such as *Soap and Sanitary Chemicals*, which he mentioned among others.

Throughout the three-day conference constant use was made of new sanitation equipment, loaned by manufacturers or distributors, to demonstrate how its use can reduce time and labor costs, and at the same time do so with a high degree of efficiency. Sanitary chemicals were also discussed and appraised in the light of what unbiased scientific knowledge has contributed to this phase of sanitation.

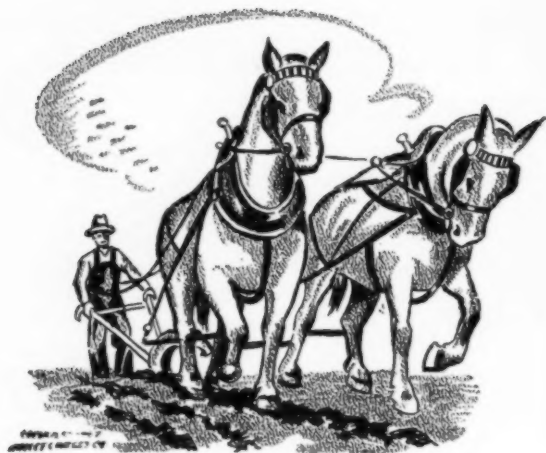
First step in the organization of a systematic sanitation program anywhere, Mr. Solworth said in his opening talk on April 4, is to obtain the support of management. From actual case histories he offered many constructive suggestions for securing this support. He also discussed the equally important need for enlisting employee cooperation in the project. He also outlined the organization setup of a sanitation staff, either on the departmental or central service plans, with explanations of the advantages of both.

Louis A. Poleo of Industrial Sanitation Counsellors, who followed Mr. Solworth, explained the use of surveys to bring to light the factors involved in a sanitation program for a given institution. Using slides, he showed a variety of forms employed by many firms as illustrations of the best way to utilize survey data and for cost analysis purposes.

"What Happens When We Clean," subject of the next discussion, presented by Nathaniel L. Fine of the Louisville organization, dealt with the theory of detergency, both by dry and

(Turn to Page 149)





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# NAPHTHALENE...

**T**HE inadequate supply of crude naphthalene, one of the most important of the coal tar chemicals, has directly affected the production of refined naphthalene and phthalic anhydride. This resulted in reduced or erratic output of many products. Among them were insecticides, synthetic waxes, detergents, coatings, beta-naphthol and other dye intermediates, plasticizers, leather products, solvents and chlorinated naphthalenes.

**By John R. Skeen**

Foster D. Snell, Inc.

For the past two years, the total supply of the crude exceeded 350 million pounds annually, over two and one-half times the pre-war yearly average, and yet the demand was not satisfied. In recent months there is considerable evidence which indicates that there will be sufficient naphthalene of all grades for all uses this year.

Naphthalene is exclusively of natural origin, being derived from coke-oven and gas works tars having a content of approximately 3.8 per cent. By cooling the middle and heavy oil distillates, crystals of naphthalene melting up to 74°C. are formed. The melting point may be raised by distilling, hot pressing, acid washing, or a combination of these procedures. So long as the product melts at less than 79°C., it is called "crude." Availability

## Naphthalene: Crude & Refined Unit: 1000 lb.

Crude Naphthalene <sup>1</sup>								Refined Naphthalene <sup>2</sup>							
Production <sup>3</sup>					Imports <sup>4</sup>	Con- sump- tion <sup>5</sup> Phthalic Anhyd.	Price <sup>6</sup>	Production			Imports <sup>7</sup>	Pro- ducers num- ber	Con- sump- tion <sup>9</sup> Moth Repel- lent <sup>12</sup>	Dyes <sup>13</sup>	Price <sup>16</sup>
Total <sup>11</sup>	Dis- tillers <sup>12</sup>	Coke Oven <sup>12</sup>	Gas Works <sup>14</sup>	Total				Distillers <sup>12</sup>	Other <sup>16</sup>						
1918	51181	40138	10615	428	3903	318	\$0.028	33702	28112	5590	—	10	17000	10100	\$0.098
1919	16192	12612	3580	—	3239	407	0.020	30388	17625	2763	7.7	7	13000	9500	0.072
1920	39400	26393	11247	1760	15012	1115	0.027	33152	30231	2921	3698	9			0.127
1921	19777	16949	2828	—	4496	n.a.	0.025	13669	13554	115	442	9			n.a.
1922	25431	19323	6108	—	3144	2280	0.016	19231	17420	1811	76	10			0.061
1932	13593	8961	4617	15	27002	8760	0.0165	25825	25825	—	—	n.a.			0.048
1933	30621	24003	6603	15	42786	19720	0.0170	42708	42708	—	—	7			0.059
1934	37922	27179	10735	8	47995	28950	0.0165	38730	38730	—	0.1	6			0.061
1935	47653	34716	12933	4	48455	32800	0.0177	46564	46564	—	0.1	8			0.049
1936	89536	51983	37396	157	39806	43750		52694	52694	—	0.1	9			0.068
1937	115979	55182	59864	933	52664	63350	0.0254	52194	52194	—	5.1	9			0.073
1938	53584	28641	24338	605	29966	38700	0.0241	38259	38259	—	—	8			0.068
1939	104086	55626	47764	696	41104	62000	0.0225	59465	59465	—	0.2	8			0.060
1940	159637	87211	71915	512	6290	81200	0.0225	58250	58250	—	—	9			0.069
1941	197779	113732	83297	750	1611	113800	0.0231	70802	70802	—	—	9	19000	40900	0.074
1942	250926	155314	94452	1160	176	132800	0.0268	81584	81584	—	—	9			0.080
1943	305269	207172	96616	1481	613	159800	0.0275	83372	83372	—	—	9	18100	47100	0.080
1944	286241	183200	102175	866	513	171800	0.0275	81588	81588	—	0.2	9	9800	59800	0.080
1945	287636	199959	86898	779	694	176200	0.0275	77811	77811	—	—	9		53300	0.080
1946	242271	170665	71015	591	—	157900	0.0283	96307	96307	—	252	9		60000	0.087
1947	314721	216342	98379	—	2139	197200	0.0363	94739	94739	—	454	9	19000	62500	0.102
1948	315680	211835	103845	—	37584	223870	0.0563	95006	95006	—	—	9	23000	58000	0.102

<sup>1</sup> Melting less than 79°C.

<sup>2</sup> Melting 79°C. or higher.

<sup>3</sup> While production is reported officially and variously in its parts or in total, the total crude is not necessarily accounted for; the deficit appears to be attributed to the accounting of distillers; in late years the total exceeds the amounts reported variously by 20 to nearly 40 million pounds annually.

<sup>4</sup> Naphthalene, Industrial Reference Series, Department of Commerce, Dec. 1945; see also *Industry Reports*, Department of Commerce.

<sup>5</sup> Consumption of crude naphthalene for production of phthalic anhydride; assumes that 1.4 lb. of crude is required for production of 1.0 lb. of phthalic anhydride in all years.

<sup>6</sup> 1918-22: Mixed crudes as sold by coke oven operators; 1932-38: *Oil, Paint & Drug Reporter*; 1939: B.L.S.; 1939-40, bags, c.i., works; 1941: tanks, c.l., works.

<sup>7</sup> Bureau of Foreign & Domestic Commerce; 1948 *Report No. FT 110*, Bureau of the Census.

<sup>8</sup> Distillers only.

<sup>9</sup> Major uses are reported; a composite of several surveys but modified by recalculation of chemicals as reported, allocation records, and trade estimates.

<sup>10</sup> 1918-22: *Wholesale Prices*, Bull. No. 493, 1929, Bureau of Labor Statistics, flake, bbl., N. Y. 1913-2.3c, 1914-2.7c, 1915-10.0c, 1916-11.0c, 1917-9.4c; 1932-39: B.L.S., flake, bbl., N. Y.; 1940: *Oil, Paint & Drug Reporter*.

<sup>11</sup> 1918-22: The sum of parts as reported; 1932-40: *Naphthalene, Inquiry Reference*, Department of Commerce, July 1944 and as reported by Tariff Commission; 1941-43: *Synthetic Organic Chemicals*; 1944-46: revised data, courtesy Chemical Division, Tariff Commission; 1947-48: preliminary; 1918-22: only approximate, *Naphthalene* (supra) does not include "gas works."

<sup>12</sup> 1918-22: *Census of Dyes, etc.*, Tariff Commission; 1932-43: "total" less "coke oven" and "gas works"; 1944-46: revised data, courtesy Chemical Division, Tariff Commission; 1947-48: preliminary, see *Industry Report*, Department of Commerce, March 1949.

<sup>13</sup> 1918-22: Communication, Anthracite and Coke Section, Bureau of Mines; 1932-43: *Minerals Yearbook*, Bureau of Mines; 1944-46: courtesy Chemical Division, Tariff Commission; 1947-48: preliminary, Tariff Commission, and includes "gas works."

<sup>14</sup> 1918-22: Approximate only; 1918: *Census of Dyes, etc.*, 1919; 1920: Sales probably representing total crude; other early years, insufficient data; 1932: *Minerals Yearbook* and 1947 included in "coke oven."

<sup>15</sup> 1917-45: Tariff Commission "Annuals"; 1946: *Facts for Industry*, series 6-2; 1947-48: *Industry Report*, Department of Commerce, March 1949.

<sup>16</sup> Includes refined naphthalene from by-product coke oven and gas works operators; reported by Bureau of Mines for period of 1918-26; the Anthracite and Coal Section feels certain that no refined naphthalene has been made by these operators since 1932.

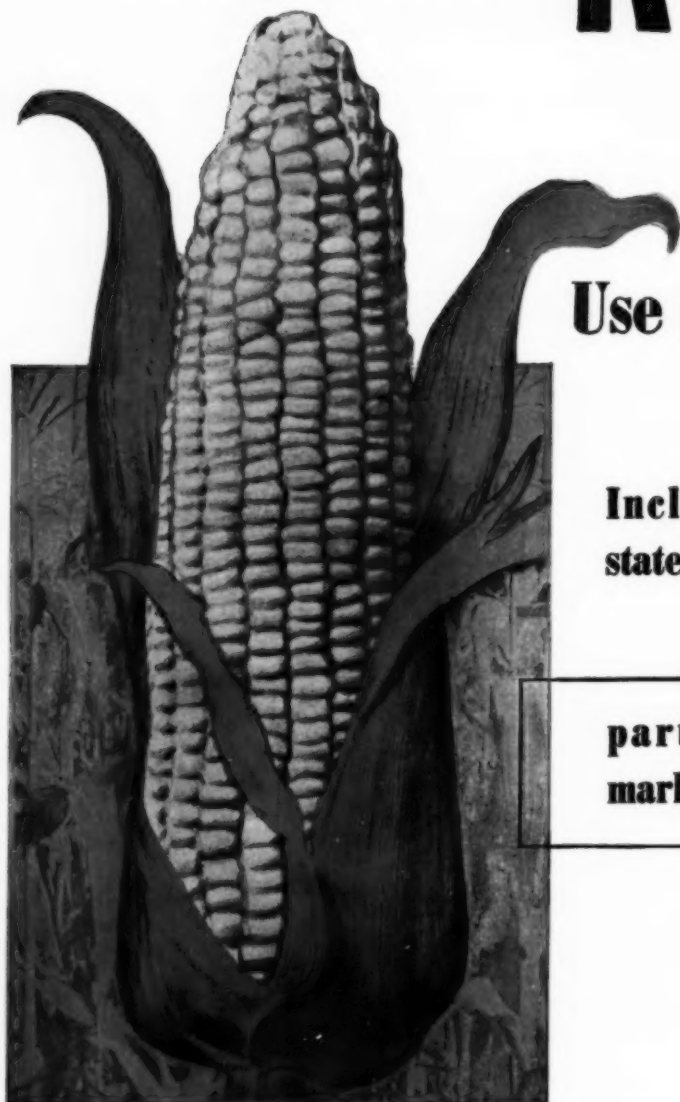
<sup>17</sup> 1918-19: conjectural and based upon trade reports and opinions; 1948: "household use" given as 30 million lb. of crude equivalent, *Modern Plastics*, April 1949, this is believed to be too high.

<sup>18</sup> Includes beta-naphthol and dye intermediates (a-nitronaphthalene, sulfonated naphthalenes, amino naphthalene disulfonic acids, etc.); calculated from end products, 1.48 lb. naphthalene assumed to yield 1.0 lb. beta-naphthol; for 1948, *Modern Plastics* gives 70 million lb. of crude equivalent consumed in this total category.

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depends mostly upon coking operations to supply the steel industry and what this industry does with the tar. Before the war, up to 60 per cent was distilled and the remainder consumed as fuel. The increasing demand for all coal tar products rapidly reduced the fuel use to less than 15 per cent. About a quarter was processed by the coke oven operators and the rest sold to distillers for by-product recovery. Coal and steel strikes and the price of fuel oil have an important bearing on the naphthalene supply.

Formerly there was always sufficient naphthalene for domestic needs. Recovery was not profitable for the most part. In recent years, recovery has been the maximum consistent with existing facilities and the need for fuel. Operations today approach the possible annual limit of an estimated 340 million pounds. Due to the accounting practices of some plants, the total amount of crude that is actually made is not known with certainty. That it exceeds the amount officially reported by at least 20 million pounds seems highly likely. The limiting factor presently is the capacity of processing facilities. In 1940, this limit was close to 250 million pounds. Additional equipment was installed to raise the rate of production by about 20 million pounds annually and for a while output kept pace with demand. Capacity in 1943 reached 320 million pounds but since that year expansion has been small.

The long-continued shortage was due mostly to the increased demand and the lack of imports. "Normally," over 30 per cent of the supply was contributed by imports. With the war, imports became negligible. In addition, naphthalene products were required for export and the shortage became world-wide. In 1937-38, western Europe made about 340 million pounds per year. Germany contributed half, France nearly 21 per cent, U. K. about five per cent, while 20 per cent was added by Czechoslovakia, Italy, Holland and Belgium. These operations were soon thoroughly disrupted. However, as a result of help provided under the Marshall Plan, the industry recovered in great part last year and western Europe has once again become a major source of supply.

In recent years, about 46 per cent of the crude naphthalene has been ultimately consumed in resins and plasticizers, nearly 26 per cent for making dyes and intermediates, and over 19 per cent for moth repellents and insecticides. The residue found outlets in such industries as tanning, petroleum, cellophane, foods and rubber.

#### **RAT KILLER LABEL**

In the article on "Label Problems" on page 131 of the April issue, reference was made in suggested Label G for "Rat Killer" to rats seeking fresh air and water and dying out of doors. Any such reference on a label is not acceptable to USDA and to some states. It was included in this model label by error. Note should be made that **NO** such reference should be included on rat killer labels where the product is to be shipped interstate. Best policy indicates that it should not be included at all on any label of this type.

—The Editors.

Refined naphthalene competes mostly with phthalic anhydride for the common supply of the crude. As the raw material was inadequate for all demands, the refined product was not available in sufficient quantity to satisfy the market for moth products, beta-naphthol and other dye intermediates. As the preservation of wools in storage was regarded as something less than a "vital" military need, the amount of naphthalene so employed dropped to less than 10 million pounds in 1944. Gradually more moved into this old channel. Estimates of the amount so consumed last year range from 21 to 26 million pounds. The quantity that will be used this year will depend mostly upon the relative prices of refined naphthalene and para-dichlorobenzene. Current prices indicate that the advantage lies with Para.

Refined naphthalene was first offered in commercial quantities in 1873 in order to prepare naphthols for the new dye industry. Consumption was small, grew slowly, and was confined to Germany and England. In 1914, there were only two domestic

U. S. producers. Consumption was almost exclusively for moth balls. When the war made necessary the establishment of an intermediate industry, refined naphthalene was needed to make a-nitronaphthalene, the sulfonated naphthalenes, b-naphthol, the aminonaphthalene disulfonic acids, and others. Thus, the seven small dye plants extant in 1914 required no naphthalene at all. Four years later, 78 dye makers used most of the 34 million pounds of the refined then made. Bakelite Corp. organized Halowax Corp. in 1923 to make the new chlorinated naphthalenes. These synthetic waxes attained no significant importance until later years when the demand became great for coating navy cables, cutting oils, mold lubricants and a variety of other uses. A new use appeared in 1927 when E. I. du Pont de Nemours and Co. offered "Neozone" (phenyl-1-naphthylamine) as an antioxidant for vulcanized rubber. Other allied compounds followed and became of critical importance to the synthetic rubber program when the foreign supply of the natural product was cut off in 1941. In the middle 20's, an important but relatively small outlet developed in the manufacture of synthetic tanning materials.

In many ways, the development of phthalic anhydride, deriving from crude naphthalene, is the same. Thus, in 1917, less than 50,000 pounds were imported to make phenolphthalein, benzoic acid and a few perfume chemicals. With the end of German dyes, the importance of the chemical was evident by the lack of fluorescein, the eosines, rhodamines, and other dyes. Four domestic firms undertook production of phthalic anhydride in 1917 following the German method. However, Government initiative made the Gibbs-Conover process available and the anhydride was soon in ample supply for making the important dye intermediate, anthraquinone. With the coming of prohibition, diethyl phthalate was in demand as a special denaturant for alcohol. In 1922, a new use as a plasticizer was created when the Oakland became the first automobile to be finished with cellulose lacquer. Two years later, dibutyl phthalate was of-

(Turn to Page 151)

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# Meaning of "Sanitization" \*

**T**HE word "sanitize" and its various derivatives, e.g. sanitizing, sanitized, sanitizer, sanitization, is now commonly used in the field of public health, particularly in reference to eating and drinking utensils. There appears, at this time, to be no clear-cut definition for this word. It is the purpose of this discussion to study the meaning of this word, as expressed in the literature, and suggest a definition which could be universally adopted.

The word "sanitize" is defined in several dictionaries, although not in Webster. In Funk and Wagnall's *New Standard Dictionary*, 1913, "sanitize" means: to apply sanitary measures to; to bring into condition conducive to health. In Dorland's *Medical Dictionary*, 19th edition, 1942, as well as in earlier editions, "sanitization" means: the act of making sanitary, especially the sanitary handling and washing of dishes and drinking glasses.

The present widespread use of the word, however, probably has its inception in a publication by Mallmann (1), where the following is found: "The word 'sanitization' is used for want of a better term to describe the process of rendering eating utensils free from disease bacteria and other organisms indicative of insanitary conditions. The word 'sterilization' is incorrectly used when applied to eating utensils, because complete freedom of microscopic life is seldom attained and from a public health point certainly is unnecessary." It is to be noted that the meaning given to the word "sanitization" by Mallmann implies that the process does not merely involve visible cleanliness, but more important, a reduction in the number of organisms present on the utensils, although it does not imply complete freedom from

\* This subject is presently under discussion by the Sub-committee on Sanitizing Agents of the N.A.I.D.M. This paper, however, represents the opinion of the writer only, not that of the Committee nor of its members. Publication at this time is for the express purpose of prompting discussion at the next meeting of the National Association of Insecticide & Disinfectant Manufacturers, to be held June 13-14 at the Drake Hotel, Chicago.

**By Adrien S. DuBois**

Fuld Bros. Inc.

bacteria. Since then, the word and its derivatives have been extensively used in the same sense by many investigators (2-15).

Only one instance of the use of this word in a different sense has been found. James and Lundell (16) reporting work done on behalf of the Sanitized Research Institute, spoke of "fabrics subjected to sanitized treatments." No definition of the word was presented, but from the context the following could be implied: "to improve sanitary conditions of clothing, bedding, leather goods, etc. . . sanitizing principles are incorporated into the fabrics." It is also mentioned that these fabrics develop self-antiseptic and self-sterilizing properties. This meaning of the word "sanitize," while referring to the sanitary condition of objects, also seems to be restricted to the treatment of porous or absorbent materials.

There is at least one instance (17) where an author used the term "pasteurization" for what is today considered to be "sanitization."

Disregarding these two definitions of the word, there remains a fairly uniform tendency to apply the term "sanitization" particularly to food handling equipment, eating and drinking utensils, and the like.

There are some cases in the literature where the words "sanitation" and "sanitization" or their derivatives are used in the same article to convey the same meaning, i.e. they are apparently used interchangeably as synonyms, (7, 14). There are also instances, (18, 19) where the words "sanitation" and "sterilization" are used interchangeably, when referring to eating and drinking utensils.

Mallmann's (1) reasoning that the use of the word "sterilization" is incorrect from the public health standpoint, when applied to eating and

drinking utensils, and the fact that the generally adopted standard (20) for utensils is a count of 100 bacteria per four sq. in., make it obvious that the use of the word "sterilization" is not only unwarranted, but actually misleading.

According to Webster, "sanitation" means: rendering sanitary; use of sanitary measures, while "sanitary" means: of or pertaining to health; for or relating to the preservation or restoration of health; occupied with measures or equipment for improving conditions that influence health, etc. From these definitions it is obvious that the term "sanitation" is a much broader term and embraces "sanitization" within its scope.

While there may be no instances in the literature, some misunderstanding may exist regarding the difference between "sanitize" and "disinfect." From the evidence presented above, it is clear that while disinfection involves complete removal of bacteria, "sanitization" does not aim to remove all bacteria from the surfaces treated, but merely to reduce their number to an acceptable level. Thus, the application of disinfection procedures will at the same time achieve sanitization, but sanitization will not result in disinfection.

The above study indicates that the use of the word "sanitization" has tended almost universally towards a meaning closely akin to that given by Dorland, but definitely not towards that given by Funk and Wagnall. This practice has therefore given the word a narrower, more specific meaning than "sanitation."

## **Suggested Definitions:**


**Sanitize:** to apply measures to food-handling equipment, eating and drinking utensils, and the like, so as to reduce the bacterial count to safe levels as may be judged by Public Health requirements.

**Sanitization:** the act of treating food-  
(Turn to Page 147)

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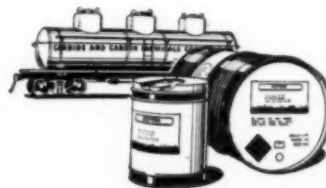
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# N.A.I.D.M. Meets June 13-14

**W**HEN the National Association of Insecticide & Disinfectant Manufacturers meets for its 35th annual mid-year convention at the Drake Hotel, Chicago, Monday and Tuesday, June 13 and 14, it will take up a number of matters affecting the future activities of the organization. Of paramount importance will be the discussion and voting on the reorganization of the N.A.I.D.M., including a possible change in name and a broadening of the scope of the association's coverage. Prior to the meeting a revised copy of the new constitution and by-laws, incorporating suggestions made by members, were mailed to the entire membership of the N.A.I.D.M. for consideration. Comment on proposed changes in the structure of the association are expected to be made by N.A.I.D.M. president, Gordon M. Baird, Baird & McGuire, Inc., Holbrook, Mass., in his president's address at the Monday morning session.

The program for the two-day meeting, which has been arranged for by a committee working with Melvin Fuld, Fuld Brothers, Inc., Baltimore, program chairman, will feature a number of departures from previous years. Most important are simultaneous sessions of divisions, such as aerosols, insecticides, soap and detergents, waxes, and disinfectants and deodorants,

## To Vote on Reorganization Plan and Name Change. Simultaneous Divisional Sessions Feature Drake Hotel Meeting.

which will be held on Monday afternoon and Tuesday morning. General sessions will be held on Monday morning and Tuesday afternoon.

Most of the discussion on Monday morning, June 13, will center on the proposed reorganization of the association. Following consideration of matters pertaining to the association, Will A. Foster, vice-president of Borden Cheese Co., New York, will speak on "Changing Habits of Living Build Better Business." At this session, H. W. Hamilton, H. W. Hamilton Co., New York, secretary, will give his report.

Following the group luncheon on Monday, the simultaneous group sessions will get under way. The division meetings and their tentative programs which carryover through Tuesday morning appear on page 141.

On Tuesday afternoon, June 14, the closing session of the meeting, talks of general interest are scheduled. They include: "National Resources and Industrial Preparedness," by Edward V. Hickey, director of the Office of Production, National Security Resources Board, Washington, D. C.; "Theoretical, Experimental and Prac-

tical Considerations in the Design of an Aerosol Deodorant," by Dr. Lloyd H. Beck, assistant professor of psychology, Yale University, and H. R. Shepherd, Bostwick Laboratories, Inc., Bridgeport; "Aerosols for Greenhouse Pest Control," by Drs. R. A. Fulton and F. F. Smith, Bureau of Entomology & Plant Quarantine, U. S. Department of Agriculture, Washington, D. C.; "Measurement of Odors in the Insecticide and Disinfectant Fields," by Dr. Louis Barail, U. S. Testing Co., Hoboken, N. J.

At the group luncheon on Tuesday, William Crean, vice-president of the Lacy Sales Institute, Newton Centre, Mass., will speak on "What Makes a Star Salesman."

The banquet and entertainment will be held on Monday night, with James Ferris of Niagara Alkali Co., New York, serving as chairman of the entertainment committee.

Although the meeting officially gets under way on Monday, June 13, a number of early arrivals are expected to be on hand Sunday, the 12th. The board of governors meets Sunday afternoon, as do the various technical

GORDON M. BAIRD, President



H. W. HAMILTON, Secretary



MELVIN FULD, Program Chairman



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committees. Following these meetings the chairmen meet with the board for dinner on Sunday night, at which time the chairmen give their reports.

The tentative programs and time of meeting of the various divisions follow:

## AEROSOL (INSECTICIDE)

### DIVISION

#### Monday afternoon

Technical Chairman, E. J. CAMPAU  
Chairman, H. E. PETERSON  
Association Officer, H. W. HAMILTON  
"The Outlook on Supplies for Use in The Low Pressure Method of Aerosol Dispersion"—Melvin Goldberg, Pesticide Advisory Service, New York.  
"Insecticidal Aerosols"—T. B. Welsh, asst. mgr. specialty div. Gulf Oil Corp., Pittsburgh.  
"Moth Proofing Compounds"—H. R. Shepherd, vice-pres. in charge research, Connecticut Research Corp., Bridgeport.  
"Effect of Recent Publicity on DDT for Aerosols"—Dr. R. H. Nelson, Bureau Entomology & Plant Quarantine, U. S. Department of Agriculture, Beltsville, Md.  
"Tentative Official Test Aerosol"—Dr. E. J. Campau, chief entomologist, Standard Oil Company of Indiana, Whiting, Indiana.  
"Caution Statements"—Report of sub-committee by H. R. Shepherd, Connecticut Research Corp., Bridgeport, Conn.  
"Aerosol Industry to Date"—H. E. Peterson, Continental Filling Corp., Danville, Ill.

## SOAPS AND DETERGENTS

### DIVISION

#### Monday afternoon

Chairman, to be announced  
Technical Chairman, H. W. ZUSSMAN  
Association Officer, PETER C. REILLY  
"General Uses for Tall Oil in Scrub Soaps, Metal Cleaners and Allied Specialties," Dr. C. B. F. Young, National Southern Products Corp., Tuscaloosa, Ala.  
"Fatty Acids and Liquid Soaps"—R. A. Behrmann, Emery Industries, Inc., Cincinnati.  
"The Outlook for the Small Soaper"—Roy W. Peet, secretary-manager, Association of American Soap & Glycerine Producers, Inc., New York.  
"The Meaning of the Word 'Sanitization'"—A. S. DuBois, Fuld Bros., Inc., Baltimore.  
Symposium—A. S. DuBois, moderator  
—Discussion of Black and Weber Procedure Against Other Methods for Determining the Influence of Hard Water on Quaternaries.  
"A Review of the Effects of Water Ions on Quaternaries"—E. H. Armbruster, research associate, University of Michigan, School of Public Health.

## WAX AND FLOOR POLISHES

### DIVISION

#### Monday afternoon

Technical Chairman, C. S. KIMBALL  
Chairman, FRANK J. POLLNOW, JR.  
Association Officer, C. L. WEIRICH  
"Fundamental Chemistry of Colloidal Silica as Related to Wax Dispersions"—Dr. Michael Sveda, industrial product development and service section, Grasselli Chemicals Dept., E. I. du

Pont de Nemours & Co., Wilmington, Del.

"The Relationship of Particle Size of Wax Dispersion to Gloss"—A. W. Marshall, Petrolite Corp. Ltd., Kilgore, Texas.

"Microcrystalline Waxes: Source, Production Methods and Oxidation"—Maurycy Bloch, Warwick Wax Co., Long Island City, N. Y.

"Carnauba Wax"—A. G. Bowers, Hunt Mfg. Co., Cleveland.

## INSECTICIDE DIVISION

### Tuesday morning

Technical Chairman, A. C. MILLER  
Chairman, T. CARTER PARKINSON  
Association Officer, GORDON M. BAIRD  
"Livestock Contamination by Chlorinated Insecticides"—Ray L. Cuff, regional manager, National Livestock Loss Prevention Board, Kansas City, Mo.  
"New Developments in DDT Fly Resistance"—Dr. E. F. Knippling, in charge, Insects Affecting Man and Animals, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Washington, D. C.  
"Why Precautionary Labeling?"—Dr. Justin C. Ward, chief, Pharmacology and Rodenticide Section, Production and Marketing Administration, U. S. Department of Agriculture, Washington, D. C.  
"Limitations of Test Methods for New Insecticides"—Dr. H. L. Haller, assistant to chief, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Washington, D. C.  
"Household Insecticides—Their Use and Cautions"—Dr. S. A. Rohwer, assistant to chief, Agricultural Research Administration, Bureau of Entomology & Plant Quarantine, U. S. Department of Agriculture, Washington, D. C.  
"The Synthesis of Pyrethrin-like Esters"—Dr. R. C. Roark, Bur. Entomology and Plant Quar., U.S.D.A.

## AEROSOL (NON-INSECTICIDE)

### DIVISION

#### Tuesday morning

Technical Chairman, E. J. CAMPAU  
Chairman, H. E. PETERSON  
Association Officer, H. W. HAMILTON  
"Brief History and Function of the Compressed Gas Association and Bureau of Explosives"—W. W. Rhodes, sales mgr., Aerosol Div., Kinetic Chemicals, Inc., Wilmington, Del.  
"Deodorant Aerosols"—H. W. Moburg, president, Rex Research Corp., Toledo.  
"Plastic Materials in Aerosols"—J. H. Mills, sales manager, Bridgeport Brass Co., Bridgeport.  
"Wax in Aerosols"—E. J. McKernan, Continental Filling Corp., Danville, Ill.  
"Germicidal and Bactericidal Bombs"—L. Anderson, Carand, Inc., Racine, Wis.  
"Development of a Standardized Deodorant Test Method"—Report of sub-committee, by Anthony Haas, Kilgore Laboratories, Washington, D. C.

## SANITATION SESSION

### (Covering Disinfectants, Soaps, etc.)

#### Tuesday morning

Chairman, JACK C. VARLEY  
Technical Chairman, PAUL A. WOLF  
Association Officer,

## LEONARD J. OPPENHEIMER

"Detergent Sanitizers, Their Value and Possibilities in Industrial Cleaning and Dishwashing"—Lee D. Callans, Antara Products Division, General Aniline & Film Corp., New York.

"Sanitation in Bakeries"—Dr. Edward L. Holmes, department of sanitation, American Institute of Baking, Chicago, Ill.

"Air Disinfection With Glycol"—Dr. L. D. Polderman, Carbide & Carbon Chemicals Corp., New York.

"The Application of Detergent Sanitizers in the Dairy Industry"—Drs. Franklin W. Barber and H. G. Harding, National Dairy Research Laboratories, Inc., Oakdale, N. Y.

## SDMA . . .

(From Page 36)

ducts. He then went on to enumerate a number of relatively simple tests for analyzing the three principal types of synthetic detergents.

The concluding speaker of the afternoon session, which was followed by a closed meeting of active members of the S.D.M.A., was Earl Burtis, of the Bureau of Agricultural Economics, U. S. Department of Agriculture, who discussed the fat and oil outlook. He predicted a greater supply of tallow and possibly grease in 1949 than in the previous year as a result of an eight per cent increase in hog slaughter expected for 1949. Although fewer cattle may come to market than a year ago, they will be heavier, as a result of the larger corn crop in 1948, Mr. Burtis stated. Coconut oil production should be larger than last year, according to reports from the Philippines, the speaker stated, adding that vegetable oil production may be up in 1949.

## Detroit PCO Advt. Code

The National Pest Control Association is currently distributing copies of the code, "Standards for Pest Control Advertising," recently adopted by the Detroit Pest Control Operators. The Detroit group had the cooperation of the Better Business Bureau of Detroit in the preparation of these standards.

## New Catalog Sheets

Compco Corp., Chicago, recently announced the availability of two new catalog sheets in color to distributors of the firm's line of metal sand urns.

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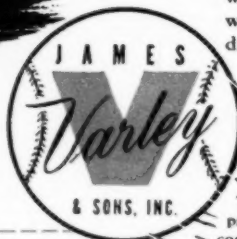
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# TECHNICAL BRIEFS

From Current Literature in the Sanitary Products Field

## Mosquitocide Incense

Incense made of the residue of pyrethrum extract containing 0.16-0.21 per cent of pyrethrum mixed with five per cent of benzophenone proved as potent a smudging mosquito insecticide as the commercial pyrethrum insecticide. It is nontoxic to man and animals and can be stored for a long time without deterioration. T. Takano, M. Ueda, I. Murasawa, and M. Ono, *Bochu-Kagaku* 1, No. 7/9, 11-15; through *Chem. Abs.*

## Emetic Rodenticide

A rodenticide which also possesses emetic properties would be considerably more advantageous than the usual rat poison which is equally fatal to higher animals. Its advantage would be in the fact that rats cannot regurgitate while other animals can. With this in view, several pyridine derivatives were synthesized, of which the most promising as an emetic rodenticide was 5-chloro-2-methoxypyridine. W. D. Jones, G. L. Jenkins, and J. E. Christian, *J. Am. Pharm. Assoc.* 38, 70-2 (1949).

## Study DDT Effect

The effect of DDT was shown not to be due to inhibition of cholinesterase activity by tests with houseflies and the potato beetle. The reason for its insecticidal effectiveness therefore awaits to be discovered. R. Truhaut and D. Vincent, *Compt. rend.* 227, 738-40; through *Chem. Abs.*

## BHC in Fly Control

Fly control in urban communities is obtained through the application of DDT solutions from aircraft. The effect is by mortality from direct contact with droplets and through residual toxicity on treated surfaces. Investigations indicate that benzene hexachloride containing 10 per cent of gamma-isomer appears to be five to seven times more toxic than DDT in

plane sprays for common flies. Further study is indicated, especially in the use of more toxic insecticides and smaller but more abundant number of droplets. C. W. Kruse, U. S. Pub. Health Repts. 63, 1535-50.

## Estimation of Toxicity

All of the principal insecticidal constituents of derris root were found to absorb strongly at 360 millimicrons when dissolved in acetone. The light absorption was proportional to the insecticidal effectiveness and obeyed the Lambert-Beer law. The estimation of total insecticidal effectiveness is made by comparing with samples that have been tested directly. Absorption by extracts of *Lonchocarpus* root did not correlate with insecticidal effectiveness. C. Pagan and A. J. Loustalot, *J. Agr. Research* 77, 271-7.

## Benzene Hexachloride

A mass isotope dilution method is used for the determination of the gamma isomer of hexachlorocyclohexane. Gamma-hexadeuterobenzene hexachloride is used as the tracer molecule and the extent of isotopic dilution in the isolated gamma isomer mixture is determined by means of infrared spectrophotometry. N. R. Trenner, R. W. Walker, B. Arison, and R. P. Buhs, *Anal. Chem.* 21, 285-90 (1949).

## Parasiticides

A study of the effect of potassium xanthate on lice, when used in water and in soap solution, showed that two per cent solutions containing potassium xanthate and soap were 100 per cent effective. The best mixture contained 40 per cent potassium xanthate, 20 per cent soap, and 40 per cent water. The soap product can be used in place of the more expensive diethyl xanthate. Addition of dichlorobenzene was ineffective. L. E. Olifson,

*Gigiena i Sanit.* 11, No. 10, 38-40; through *Chem. Abs.*

## Action of Fluorine

A study was made of 68 fluorine analogs and carbinol esters of DDT for toxicity to *Drosophila melanogaster*. No compound with low fat solubility was highly toxic. There was no correlation between ease of dechlorination and toxicity. H. C. Browning, F. C. Fraser, S. K. Shapiro, I. Glickman, and M. Dubrule, *Can. J. Research* 26D, 282-300.

## Crystalline DDT

Molten DDT can be cooled on a rotating drum and discharged onto a belt where solidification takes place to give a product which is brittle and free from gummy characteristics. DDT can also be super-cooled below its normal crystallization temperature and permitted to solidify without further cooling. K. B. Little and J. J. Burton, to J. T. Baker Chemical Co. U. S. Patent No. 2,453,076.

## DAS as Rodenticide

Measurement of the toxicity of para-dimethyl aminobenzene diazo sodium sulfonate (DAS), administered intraperitoneally, gave the following approximate LD<sub>50</sub> values in mg/kg: albino rats 15, albino mice 70, guinea pigs 30, rabbits 10-20, and dogs five to 10. The oral LD<sub>50</sub> for albino rats was about 55 mg/kg. No tolerance to DAS was observed in rats. The rodenticide was acceptable and produced high mortality in rats when placed in the diet at concentrations of 0.5 and 1.0 per cent. R. G. Herrmann and K. P. Dubois, *J. Pharmacol.* 95, 262-71 (1949).

## Testing Para Toxicity

A determination of the LD<sub>50</sub> dose of paradichlorobenzene in peanut oil, via intraperitoneal injection, using albino rats, was about 2.5 grams per kilogram. Inhalation of the vapors of this chemical produced severe toxic effects in small laboratory animals only if the concentration was unusually high and the vapors were inhaled over a sufficiently long period of time. A. G. Zupko and L. D. Edwards,



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J. Am. Pharm. Assoc., Sci. Ed. 38, 124-31 (1949).

### Polymeric Quaternaries

Surface-active polymeric quaternary ammonium salts are prepared by heating secondary amines with epihalohydrins. L. H. Bock and A. L. Houk, to Rohm & Haas Co. U. S. Patent No. 2,454,547.

### Parathion Fast Acting

Parathion was the most toxic and killed the fastest of any compound tested against *Tribolium confusum*. Those tested were various formulations of DDT, chlordane, chlorinated camphene, TDE, methoxychlor, benzene hexachloride, parathion, pipernyl butoxide, and pyrethrum. DDT, benzene hexachloride, and chlordane

were next in order of toxicity. In general, xylene emulsions were more efficient and more rapid in action than the corresponding suspension of the carbon tetrachloride or acetone-kerosene solutions. The latter were the least effective and slowest in rate of kill. Emulsifying and wetting agents in the spray formulations may materially affect their efficiency. R. T. Cotton, J. C. Frankenfeld, N. M. Dennis, U. S. Dept. Agr., Bur. Entomol. and Plant Quarantine E-766, 15 pp.

### Rodent Repellent Studies

A method of studying the power of chemicals to repel rodents was devised, which is useful in evaluating treatments of paper and cardboard boxes to prevent or minimize rodent damage to packaged goods in

storage. The procedure is based on the degree of acceptability of foods containing the sample repellents and has been shown to be reliable. E. Bellack and J. B. DeWitt, J. Am. Pharm. Assoc. 38, 109-12 (1949).

### Mildewproofing Agents

Metallic naphthenates such as those of copper, zinc, or mercury, organic mercurials, and chlorinated phenols, appear to have general application for treatment of wood, textiles, paint films, and leather. Agents can be compared by burying treated specimens in a suitably composed soil rich in decay-producing micro-organisms. Mildewproofing agents for paints are either mixed in the paint or applied to dried films as a surface coating. Organic mercurials such as mercuric phenyl naphthenate and pyridyl mercuric stearate are suitable, also derivatives of chlorinated phenols, for addition to ready-mixed paints. Tetraalkyl ammonium pentachlorophenoxides may be used for spraying on a painted surface. Outstanding protection was given to varnish and lacquer films tested under tropical conditions by salicyl anilide, ammonium thiocyanate, and ammonium-paratoluene sulfonamide. M. W. Westgate, Natl. Paint, Varnish, Lacquer Assoc., Sci. Sect., Circ. No. 719, 13 pp.

### TEPP in Insecticides

Tetraethyl pyrophosphate is normally used as an aqueous spray, with a wetting agent included in the spray solution. If the wetting agent is added at the time when the spray solution is prepared for immediate use, no difficulty arises, provided the pH of the solution is not greater than 7.5. Otherwise hydrolysis of the phosphate ester occurs. If the wetting agent is to be incorporated with the ester to produce a concentrated insecticide which only requires dilution before use, caution is necessary in the choice of the material added. Since the phosphate ester is normally sprayed at 0.1-0.03 per cent concentration, something like 30 per cent of wetting agent will probably be required in the concentrated insecticide. Complete dryness of the wetting agent is essen-

## Quaternaries as Sanitizers

**B**OTH synthetic phenolics and quaternary ammonium compounds are produced which are effective as disinfectants and sanitizers, respectively, and are odorless. However, the latter property has militated against their popularity because the public has become accustomed to note the presence of a disinfectant by its odor. Quaternary ammonium compounds are becoming more and more widely used in restaurants and bars for sanitizing dishes and glassware, and in food processing industries, where an odorless product is preferred.

A recent commercial development, detergent-sanitizers, usually combine a quaternary ammonium compound with a compatible nonionic type of synthetic detergent. In the powdered products alkaline salts and polyphosphates may also be present. These are more effective in hard water, when properly formulated, than is the quaternary alone in distilled water. The combined detergent and sanitizer does both cleaning and sanitizing in a single operation. These products have been used mostly in the dairy field so far.

A test method applicable to both hypochlorites and quaternaries is one in which a dilution of disinfectant or sanitizer is mixed with a washed

suspension of the test organism, and aliquot portions are removed at varying time intervals from 15 seconds to 30 minutes after mixing. The samples are plated and the actual number of survivors is counted. Inactivators can be satisfactorily introduced into this procedure to eliminate bacteriostasis, and organic contaminants and a standard hard water could be incorporated. With this method, a minimum number of survivors after a given time can be taken as the end point.

Practical evaluation may be necessary in a food plant. Usually a dish or piece of equipment is considered to be effectively sanitized if no more than 100 bacteria are recoverable by swabbing an area of four square inches. A product capable of producing such results under controlled conditions is satisfactory at use dilution.

Although statistics are not readily available, sanitizers—products intended primarily for use on food-processing equipment and for treating dishes and glassware in public eating places—are estimated to be much more important than disinfectants in both dollar value and tonnages produced; the sanitizer market is expanding rapidly. P. G. Bartlett, Chem. Ind. 64, 215-17, 318 (1949).



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tial, since water destroys 16 times its own weight of tetraethyl pyrophosphate. Even one-to two per cent of moisture in the wetting agent can be harmful. D. R. Peck, *Chemistry and Industry* No. 12, 187 (1949).

### SWAB RINSE (From Page 123)

#### Conclusions

1. Quaternary carryover may be present in the standard swab rinse test to an extent that it may give either or both bactericidal or bacteriostatic effect. Moreover, standard dilution called for in the test will not eliminate these results from this cause.
2. Even with the use of lecithin or naphuride in the swab rinse solution, enough bacteriostasis may be present to give false low utensil counts.
3. This bacteriostatic carryover effect in the plating medium appears to be largely dissipated by using "Tween 20"- "Asolectin"-nutrient agar in conjunction with naphuride buffer swabbing solution.
4. As measured by the performance test which simulates field conditions of use and testing and with bacteriostasis reduced to a minimum by the use of naphuride and "Asolectin" agar, the better quaternaries in 200 ppm gave sanitization of glassware equal to that from 200 ppm sodium hypochlorite, even in water with hardness up to 100 ppm calcium. However, in the presence of organic matter on the glass, satisfactory sanitization was not secured either by quaternaries or hypochlorites.

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### RADIATOR CLEANERS

(From Page 38)

corrosion inhibitor.

In severe cases, hydrochloric acid may be called into use as a cooling system cleaner. Solutions of this acid are sometimes used for the corrective cleaning of badly scaled or rusted water jackets, particularly in rebuilt engines. Both from the personal hazard and equipment standpoints, experience and caution are highly important in the use of hydrochloric acid. (2) Inhibited acids are very desirable and a patented product (21) of this sort should be of interest. Such a cleaner consists of:

	parts
Hydrochloric acid (18° Be.)	44.25
Lactic acid solution	55.25
Oxalic acid	0.50

The lactic acid solution is a by-product containing 22 per cent of the acid plus various impurities. It serves to inhibit the hydrochloric acid from attacking metals, like cast iron. The cleaning compound is employed for removing hard, refractory scale from the water jackets of internal combustion engines.

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### "SANITIZATION"

(From Page 137)

handling equipment, eating and drinking utensils, and the like, so as to reduce the bacterial count to safe levels as may be judged by Public Health requirements.

Sanitizer: an agent that reduces the bacterial count to safe levels as may be judged by Public Health requirements, on food-handling equipment, eating and drinking utensils, and the like.

Detergent Sanitizer: an agent that combines cleaning and sanitizing properties.

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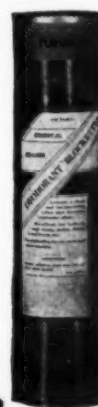
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The author wishes to express his sincere thanks to Drs. Mallmann, Stuart, Bartlett, Wolf, Messrs. Gain, Epstein and Mrs. Lewis for their valuable suggestions.

## NSSA MEETS

(From Page 131)

president, in charge of sales.

Multi-Clean Products Co., St. Paul. Minn. Floor and carpet cleaning and maintenance equipment and supplies. N. H. McKee, president, H. B. Quick, general sales manager.

E. F. Drew & Co., Inc., New York. Potash soaps, synthetic detergents. F. H. Guernsey, sales manager.

Smyth Mfg. Co., Newark, O. Mops of cellulose sponge yarns. E. D. Smyth, president.

National Super Service Co., Toledo, O. Vacuum cleaners. J. T. Kirby.

Hysan Products Co., Chicago. Floor maintenance and sanitation products. Henry J. Brownstein, president, Harry Brownstein.

S. C. Lawlor Co., Chicago. Floor maintenance equipment, polishing machines, mop wringers, mopping tanks. Art Boller, vice president and treasurer.

Empire Brush Works, Inc., Port Chester, N. Y. Brushes. Jack Gantz, president, Emanuel Gantz, sales manager.

White Mop Wringer Co., Fultonville, N. Y. Floor cleaning equipment, wringers, mops, pails, tanks, etc. R. L. Cooley, vice president and sales manager.

H. D. Hudson Mfg. Co., Chicago. Sprayers and dusting equipment. D. P. Lewis, in charge, sprayer and duster div.; George Wright, Bob Campbell, Tom Blaine, Chicago.

Atlas Products Co., Chicago. Sand urns, waste receptacles, lobby dust pans. Samuel Brody, sales manager.

F. H. Lawson Co., Cincinnati, O. Waste receptacles, sand urns, sheet metal products. E. G. Harvey, sales manager.

J. A. Meinhardt & Co., Chicago. Sanitary chemicals. J. A. Meinhardt, president.

Winthrop-Stearns, Inc., industrial div., New York. "Roccal," sanitizing agent. N. J. Stromstadt, Edward P. Hassler, W. X. Clark.

United Floor Machine Co., Chicago. Floor maintenance equipment. John A. Backlund, president.

Rochester Can Co., Rochester, N. Y. Galvanized ware. S. B. Dworkin, sales manager.

Franklin Research Co., Philadelphia. Waxes, floor seals, cleaners. V. Bushmiller, Chicago regional manager.

Drueding Bros. Co., Philadelphia. Chamois cloths. Jack Fitzpatrick, assistant sales manager.

Franklin Metal Products Co., Chicago. New self-cleaning sand urn, a magnet device for removing razor blades from toilet bowls, waste receptacles, towels and tissue dispensers, etc. Leon H. Franklin, president.

Moore Bros. Co., New York. Soap dispensers. Martin J. Peters, sales manager, John Kane.

Ox-Fiber Brush Co., Frederick, Md. Brushes. Doyle Carr, sales manager, George Schick, assistant sales manager.

Herz Mfg. Co., New York. Paper cups and straws. Henry T. Holstein, Chicago representative.

Theodore B. Robertson Products Co., Chicago. Soaps, waxes, disinfectants, sweeping compounds. New line of the company's own formulation weed control. Chemicals. Ralph Ferguson.

Acme Sponge & Chamois Co., Chicago. Sponges and chamois. Michael Cantonis, president.

## SANITATION CLINIC

(From Page 131)

wet cleaning methods and other phases of the mechanics of detergency. Problems presented by hard and soft water and means for coping with them were also outlined.

Monday evening's session of the Institute was devoted to "Floor Cleaning," a subject handled by Mr. Solworth. He considered the problems inherent in the cleaning of both soft and hard floors and discussed, as well, products to come. Attention was given likewise to floor maintenance equipment from power scrubbers to mops and squeegees and with some consideration of "Floor Tools of the Future." The speaker also touched on general precautions to be observed in floor cleaning operations. Floor waxes received detailed attention from different aspects, including the role of wax on floors, types available, advantages of certain types and application techniques.

The subject of floor cleaning was continued over into the afternoon session of the second day and was followed by presentation of problems involved in the cleaning of walls and miscellaneous cleaning operations. Mr. Poleo, who handled the wall cleaning, mentioned the importance of keeping walls clean, surveyed the products and equipment available and outlined standard wall cleaning methods.

J. V. Blankmeyer, in presenting the subject of "Miscellaneous Cleaning," dealt with methods and equipment for cleaning windows, furniture, files and varnished surfaces and the cleaning and polishing of metals. He also spoke on the second evening on "Control of Insect and Rodent Pests." He gave considerable attention to the economic significance of the problem, citing figures as to the cost to industry of uncontrolled rat and insect infestation. Identification, feeding, breeding and life cycles of various common pests were also covered. Continuing, he took up methods of controlling insects and rodents, including biological, mechanical and chemical means.

The various types of insecticides, their compounding and qualifications were surveyed, as were equipment and application of these chemicals. Rat proofing of buildings was explained and traps and rodenticides were appraised with an explanation of their application and results to be expected. Suggested too, were precautions for use of fumigating materials.

"Disinfectants and Disinfecting" were outlined in the afternoon of the final day by Mr. Fine, and "Cafeteria and Restaurant Sanitation," by Mr. Blankmeyer. Briefly the general subject of bacteriology was introduced, followed by discussion of the latest available disinfecting agents. Mentioned here were chlorine compounds, iodine, coal tar and pine oil disinfectants, formaldehyde, alcohols, soaps and heavy metals and the quaternary ammonium compounds. Exposition, too, was made of the phenol coefficient test and other tests for rating germicidal performance.

Mr. Blankmeyer, in presenting the subject of sanitation for the plant cafeteria and restaurant, explained the relation of bacteria to sanitation in kitchen, serving and eating areas, the washing and sterilization of utensils by hand and machine methods, reflecting progress of scientific study on these problems. Cost control and labor saving were other topics covered, with consideration given to mechanization of cleaning operations and the important matter of preventive sanitation.

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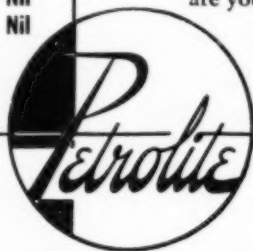
Melting Point . . . . .	195/200°F
Penetration . . . . .	2 Max. with 100 grams
Color . . . . .	2 to 2½ N. P. A.
Odor . . . . .	Nil
Acid Number . . . . .	Nil
Saponification Number . . . . .	Nil

Petrolite Crown Quality 1035 is a superior wax product. Its high melting point, low penetration, light color and absence of odor are unequalled in the microcrystalline field, and seldom approached by vegetable waxes. Petrolite Crown Quality 1035 is used as an ingredient in many fine paste and emulsion polishes, and is adaptable to a wide variety of uses. Complete information and samples are yours for the asking.

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## SOAP EXPORTS

(From Page 39)

bought more powdered and flake soap, while the remaining six of the top ten were primarily leaders for toilet soap.

Last year, the Western Hemisphere continued to take the largest dollar volume, its participation increased from 42 per cent of the total in 1947 to 55 per cent in 1948. The Central American and Caribbean markets last year absorbed about 29 per cent of the total value of U. S. soap exports. However, in 1948, shipments to those areas, amounting to \$3,374,632 worth, were off 30 per cent from the year before. The decline is attributable to the fact that shipments to Cuba, Haiti and Mexico were reduced last year. Canada, Newfoundland and nearby islands took about four per cent less U. S. soap exports than in the previous year. Shipments to Canada declined 43 per cent from the 1947 value.

Asia and the Far East collectively increased their purchases of soap products to \$3,505,883, a 14 per cent gain over the comparable 1947 figure. The two Asiatic areas increased their share of total U. S. soap exports received by 30 per cent, a 12 per cent gain over 1947. The primary factor in the increase in the far east was the higher sales of toilet soaps to the Philippines. Laundry soap sales also gained although they were only about seven per cent of the value of toilet soap. Significant was the large drop in shipments to India: \$6,146 in 1948 as against \$926,133 in 1947. The drop is due to efforts to expand the Indian soap industry, improvement in raw material availability and enactment of import restrictions. Japan's purchases in 1948 rose to \$400,000, as compared with \$11,000 in 1947. In the Near East, Lebanon, Saudi Arabia, Afghanistan, Iran and Iraq were the leading importers of U. S. made soap imports.

Africa ranked next in importance with a value of \$960,231 that was 10 per cent under the 1947 figure. Of the total U. S. soap exports, Africa bought about nine per cent or three per cent more than in 1947. Reduced shipments to the Union of South Af-

rica were partially offset by larger exports to Belgian Congo, Egypt and Tangier.

Europe, in '48, was the smallest continental market, having taken only \$659,474 worth of U. S. made soap, as against \$3,617,091 in the previous year. Of the latter, \$2,000,000 worth was acquired by the U.S.S.R. and Poland, whose 1948 imports of U. S. made soap slumped to \$13,400. Greece was the largest 1948 recipient, with \$257,687, and was followed by Switzerland's \$94,146. Shipments to other European countries were less than \$80,000.

## NAPHTHALENE . . .

(From Page 135)

fered and this ester soon became the most important plasticizer for the rapidly expanding cellulose acetate products. The major outlet became the alkyd resin coatings. General Electric Co. performed the basic research before 1915. Others contributed later. It was not until the early 30's that use in resins attained major importance. It has grown ever since.

## BOOK REVIEW

(From Page 90)

and their classification establishes the fundamentals for the discussion of the perception, measurement, control and elimination of odors which follows.

Practical aspects of the cancellation and masking of odors in the factory, home, public building and person are also considered. The nature of the odors of textiles, and the consideration of soap as a vehicle for introducing fragrances as well as masking undesirable odors in the soap itself are discussed. Cleansing compounds and janitor supplies, insect repellents, aromatic sprays and vapors are each dealt with in the chapters on odor masking, odor cancellation and counteraction.

The text is illustrated with numerous photographs, sketches, line diagrams and tables. An extensive bibliography of 125 pages is found at the end of the book.

## Polak & Schwartz Relocate

Polak & Schwartz, Inc., New York, recently announced that their Chicago offices have been moved from 400 W. Madison St. to new and larger quarters at 173 W. Madison St., where the firm also maintains warehouse facilities.

## Variety Store Fair Dates

The 9th Variety Store Merchandise Fair will be held at the La Salle Hotel, Chicago, Aug. 1-4.

## Monsanto Shifts Trotter

Monsanto Chemical Co., St. Louis, recently announced the appointment of John B. Trotter as assistant general branch manager of its Birmingham, Ala., sales district, which comprises the Southeastern states and has its headquarters in Birmingham. He was formerly assistant branch manager in charge of the company's Charlotte, N. C., office.

## Doyle in Carbide Post

Paul J. Doyle, Jr., who has been in charge of the Houston office of Carbide and Carbon Chemicals Corp., since 1947, was recently appointed district manager for the entire Texas area, now a separate sales district.

## New Wood Preservative

The development of a new chemical wood preservative, copperized chromated zinc chloride, by a joint research program of Koppers Co., Pittsburgh, and E. I. du Pont de Nemours & Co., Wilmington, was announced recently at a meeting of the American Wood Preservers Association in St. Louis.

## Letter Shows Rex Gym-Seal

To sample its "Rex Gym-Seal," Rex-Cleanwall Corp., Brazil, Ind., recently dipped the corner of a letterhead carrying a promotional message on the sealer in the product. The letter, directed to jobbers, lists various qualities of the finish and then suggests tests to which the finish on the letterhead itself can be put. The sealer, which is formulated from "Bakelite" and tung oil is also supplied in a thinner more penetrating form.



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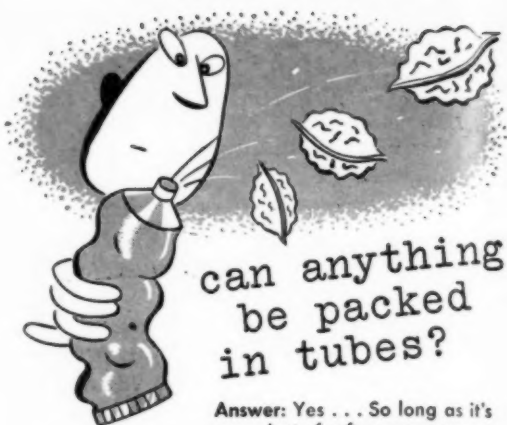
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### Norma, Click Combine

Norma Chemical Co., Mount Vernon, N. Y., recently announced that it had combined with Click Chemical Corp., Brooklyn. Edward J. Woods has been appointed general manager of the Norma division, which will continue to market "Silcreme," "Amron" and other chemical specialties made by the firm. Harry Carson continues as president of Click Chemical Corp., and Millard Fisher as director of sales. Click manufactures moth preventives, deodorant blocks and allied lines at their Brooklyn plant.

### Interdonati Joins Uhe

The appointment of Henry Interdonati as head of the chemical department of George Uhe Co., New York, was announced recently. He had recently resigned as manager of the chemical department of S. B. Penick & Co., New York, a post he had held for the past nine years. Earlier, he had been connected with the export department of Charles Huisling & Co., New York, for 14 years.

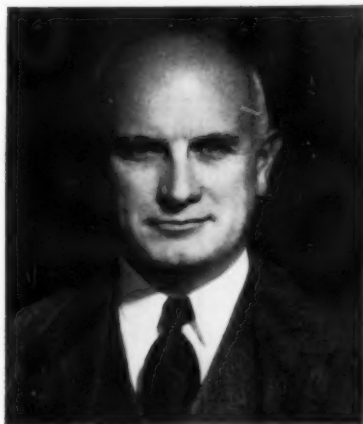
### New Good Insecticide

James Good Co., Philadelphia, recently announced "Good's AA Insect Spray," compounded especially for use in dairies, barns and around foodstuffs. The company, which was founded in 1868, is a pioneer in the manufacture of fish oil soap and spray oils. Recently the firm was appointed a territorial distributor of 2,4-D products made by J. T. Baker Chemical Co., Phillipsburg, N. J.

### Pennsalt Elects Beitzel

George B. Beitzel, executive vice-president since the first of the year, was recently elected president of Pennsylvania Salt Manufacturing Co., Philadelphia, to succeed Leonard T. Beale, who has been president for the past 20 years. Also elected at the annual meeting, which was held on the eve of the 100th anniversary of the firm, were William P. Drake, vice-pres-

ident in charge of sales and William F. Mitchell, vice-president in charge of



GEORGE B. BEITZEL

manufacturing. Mr. Beitzel and Fred C. Shanaman, president of Pennsylvania Salt Manufacturing Co. of Washington, wholly-owned west coast subsidiary, were elected to two new directorships created at a recent board meeting. Mr. Drake, formerly assistant vice-president in charge of sales, assumes the position left vacant with Mr. Beitzel's election as president. Mr. Mitchell, former assistant vice-president in charge of manufacturing succeeds Y. F. Hardcastle, who retires from active participation in the company, but remains as a member of the board.

### New Rat Repellent

Sodium fluosilicate as an effective rat repellent was reported on at a recent meeting of the Chicago section of the American Chemical Society. The compound, on which research has been conducted for over a year at the Armour Research Foundation, Chicago, has also been found to be effective in repelling roaches, termites and as a mosquito control agent, according to Clifford A. Hampel, supervisor of inorganic technology in the ceramics and minerals research division of Armour Research Foundation. Although toxic,

the material is not suggested as a rodenticide, since rats will not eat food containing sodium fluosilicate. Because of its effectiveness as a repellent to roaches and rats, consideration is being given to using the material on paper-board shipping cartons. Production of sodium fluosilicate is about 10,000 tons a year at present, but could easily be increased to about 82,000 tons, according to Mr. Hampel.

### Durez Resin-Wax Blends

Durez Plastics & Chemicals, Inc., North Tonawanda, N. Y., recently announced a working agreement with Frank B. Ross Co., Jersey City, N. J., for the production of resin-wax blends for the wax industry. These blends are available to manufacturers of emulsion waxes. Resin-wax blends using Durez resins with carnauba or candellila are in standard production.

### Rex Reduces Prices

Price reductions on its line of floor waxes and floor sealers were announced recently by Rex-Cleanwall Corp., Brazil, Ind. "RexGlo" deluxe self-polish floor wax now is quoted at 85 cents a gallon and "Rex" gym seal for \$1.90 a gallon. Increasing volume is given as the reason for the price reductions.

### New Insecticide Coating

A new insecticidal white wall coating, "Tykor Insecto-White," which contains toxaphene and chlordane, was introduced recently by the Tykor division of Borden Co., New York. The material is recommended for use on interior surfaces of barns and other farm buildings, as well as certain industrial structures.

### New Powell Plant

The opening of a new and larger plant in Huntsville, Ala., for the production of basic insecticide and related chemical materials was announced recently by John Powell & Co., New York. The new facilities, to be operated by a new subsidiary, John Powell Chemical Co., have been set up to provide stocks near an important consuming area and to expand the operations of the company in the agri-



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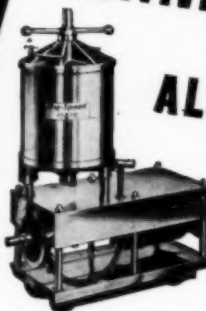
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The new Powell plant in Huntsville, Ala.

cultural field. Benton Wilcoxon, formerly of the War Production Board and more recently of Calabama Chemical Co., is managing the new subsidiary. Present Powell facilities in Brooklyn will be maintained to serve the overseas market and to continue botanical operations. The possibility of ultimately consolidating all laboratory functions in new, modern laboratories at Huntsville is being considered in connection with the opening of new facilities there.

#### Beacon Wax Promotion

Full page newspaper advertising featured the recent promotion of "Beacon Quik-Gloss Wax" in the New York City marketing area. The wax, which is made by Beacon Co., Boston, is fair traded to retail at 59c a pint, 98c a quart, \$1.59 a half-gallon and \$2.89 a gallon. The theme of the current campaign features the scientific research that has made the wax possible. Beacon floor wax is sold through hardware, paint, department and syndicate stores. It is of the "non-rubbing" type.

#### APHA New York Meeting

The 77th annual meeting of the American Public Health Association will be held the week of Oct. 24-28 at the Hotel Statler, New York.

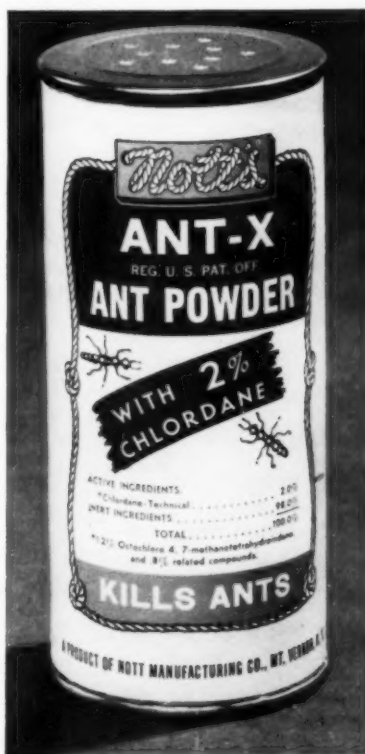
#### Name Evans for Ark. Post

Wordie W. Evans, Evans Laboratories, Inc., Little Rock, Ark., was recently nominated by the Arkansas Pest Control Association to serve a two-year term on the State Plant Board. His selection was announced by R. C. Curry of Pine Bluff, Ark., presi-

dent of Pine Bluff Termite Co. and association president.

#### Two New Nott Items

Nott Manufacturing Co., Mount Vernon, N. Y., recently announced "Ant-X" powder, a new insecticide which contains chlordane. In addition to use against ants the new powder can be used on roaches, silverfish, fleas, bedbugs, etc. It is packaged in a three-color, varnished label shaker-top can. The three ounce package retails for 35 cents and the 12 ounce container is \$1.



The company also announced "Sel-Tox" a new herbicide, which is claimed to be effective against crab grass. It is an organic mercury product that is said to act selectively against crab grass. The material comes in an eight ounce bottle to retail for \$1, a pint is \$1.50, a quart, \$2.50, half gallon, \$4.75 and a gallon, \$9. Eight ounce, pint and quart sizes are packed one dozen to the case.

#### Flavor Men Hear Curlett

John N. Curlett, vice-president of McCormick & Co., Baltimore, discussed taxes on alcohol intended for use in foods before the 40th annual meeting of the Flavoring Extract Manufacturers' Association, held at the Drake Hotel, Chicago, May 15-18. Mr. Curlett is a former president of the organization.

#### G-R-P Relocates

Gillespie - Rogers - Pyatt Co., New York, recently moved to new quarters at 75 West Street.

#### Rex Humor Booklet

The April issue of "Wit and Wisdom," a booklet of humorous sayings and stories was issued recently by Rex-Cleanwall Corp., Brazil, Ind. On the serious side, the booklet devotes space to the firm's floor wax, floor machines and gym seal.

#### Barton to Innis, Speiden

Richard H. Barton recently joined the insecticide sales division of Innis, Speiden & Co., New York. He will make his headquarters at the company's Philadelphia branch.

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### New Dow Sales Heads

Donald Williams, general sales manager since 1945, was recently named director of sales of Dow Chemical Co., Midland, Mich. He succeeds Leland I. Doan, who was elected president to succeed the late Willard H. Dow. A graduate of Pennsylvania State College, Mr. Williams joined the sales staff of Dow in 1924 as a member of the insecticide division. Subsequently he transferred to "Dowflake" sales and was in charge of that division from 1929 until 1933, when he was appointed assistant general sales manager, a post he held for 12 years.

Donald K. Ballman is the new general sales manager. He was graduated from Indiana University in 1929, and joined the Dow sales force in 1935 in insecticide sales. In 1943, Mr. Ballman was named head of the technical service and development division, and in 1945 was appointed assistant general sales manager. Named to succeed Mr. Ballman as assistant general sales manager is Dr. L. S. Roehm, manager of the technical service and development division.

### Dearborn Advances Johnson

Dearborn Chemical Co., Chicago manufacturers of water softeners and other chemicals for industrial use, has announced election of Arthur L. Johnson to the post of company secretary-treasurer and member of the board of directors.

### Forms New Company

Henry T. Ritchie, 1015 MacArthur Blvd., Oakland 18, Calif., recently announced the formation of a

new company to manufacture and market chemical specialty products.

### Fritzsche Honors Guenther

A testimonial dinner in appreciation of their contributions to the recently published second volume of "The Essential Oils" was tendered the author, Dr. Ernest Guenther, technical director of Fritzsche Brothers, Inc., New York, and his collaborators and co-workers at the New York Athletic Club, April 19, by Frederick H. Leonhardt, president of Fritzsche, to whom the two volumes have been dedicated. Those present included Mr. and Mrs. Leonhardt, Dr. Guenther, John Baylis, Miss Mary Neary, Mrs. Elizabeth Adelman, Miss Catherine McGuire, Mrs. Ann Blake Hencken, Dr. Frances Sterrett, John H. Montgomery, H. P. Wesemann, Joseph A. Huisking, Fred Leonhardt, Jr., D. A. Neary, G. A. Wohlfort, Darrell Althausen, Edward Langenau, W. P. Leidy, A. H. Hansen, Jr., and R. W. Wilmer.

Following dinner Mr. Leonhardt spoke briefly of Dr. Guenther's early work with the company and his subsequent on-the-spot investigations of essential oil production throughout the world. They laid the groundwork for the two volumes. In reply, Dr. Guenther thanked those present individually for their part in making his work possible. At the conclusion of his talk, Mr. Leonhardt presented Dr. Guenther with a "Rolleiflex" camera as his personal token of appreciation for Dr. Guenther's work.

Group photograph taken at the Fritzsche dinner honoring Dr. Ernest Guenther.

### Rents Rug Shampooers

Clarke Sanding Machine Co. of Muskegon, Mich., recently announced a new idea in rug cleaning, whereby its dealers will rent housewives a carpet shampooing machine for five dollars a day. Machines are sold to dealers for around \$350. A cleaning solution to be used in rug shampooing will sell to the housewife for around \$1,—enough to clean the rug in a single room. Delivery of rug shampooing machines to 12,500 hardware, paint and lumber dealers all over the United States has already begun by Clarke. The appliance comes in two parts. One is a shampoo unit, which spreads the cleaner and brings the dirt up to the surface. The other unit, like a vacuum cleaner, completes the job by sucking up the foam and dirt. The company also rents floor sanding and polishing machines for home use.

### Lehn & Fink Earnings Up

An increase in its earnings for the nine months period ended Mar. 31, as compared with the comparable period a year ago, was reported recently by Lehn & Fink Products Corp., Bloomfield, N. J. A net profit of \$400,522, equal to \$1.02 on 400,000 stock shares, during the nine months ended Mar. 31, 1949, as against \$201,141, or 50 cents a share, for the previous year, was reported. Earnings for 1949 are \$54,100 greater as a result of a change in accounting policy, whereby advertising costs are now charged to expense as incurred instead of pro-rating such costs throughout the year on the basis of sales as heretofore.



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### New Pennsalt Products

Two new products designed for use in the laundry and dry cleaning industries were announced recently by Pennsylvania Salt Manufacturing Co., Philadelphia. Developed by the company's Whitmarsh Research Laboratories for the Pennsalt laundry and dry cleaning division the new products are "Sparkette," a detergent for laundry operations, and "Erusto Energex," an energized de-soiler for dry cleaning. The detergent comes in granular form, is said to have relatively high alkalinity, and consists of penetrating, suspending and foaming agents. It contains no clay or synthetics.

### Hemminghaus in New Post

Roy G. Hemminghaus, formerly a manufacturing superintendent at Monsanto Chemical Company's John F. Queeny plant, St. Louis, was recently appointed to the newly created post of general production superintendent. He will have general charge of all manufacturing operations in the plant, one of the company's largest.

### Keeley U.S.I. V.P.

Election of William C. Keeley as executive vice-president of U. S. Industrial Chemicals, Inc., New York, was announced recently by William P. Marsh, Jr., president. A vice-president of Air Reduction Co., New York, from 1936 to 1948, Mr. Keeley served

as chairman of its finance committee during the past year. He is a graduate



WILLIAM C. KEELEY

of Sheffield Scientific School, Yale University. He joined Air Reduction after serving as an artillery captain in World War I. During the recent war he served as vice-chairman of the War Production Board.

### Wood Preservative Spec.

The tentative draft of a new specification for zinc naphthenate wood preservative for application by brush, dip or spray is being circulated by the National Bureau of Standards. It bears the designation TS-4754 and is similar to the recently established specification for copper naphthenate wood preservative, CS-152-48.

### New Electric Sprayer

A new, portable electric sprayer, "Mistmaster Model 50," for diffusing both water-base and oil-base insecticides of the space or residual types was announced recently by Sprayer Corporation of America, Evanston, Ill. Effective with the newer insecticides, the sprayer throws a fine mist or heavy spray for distances up to 10 feet. The new model weighs 3½ pounds; is constructed of precision machined, aluminum castings; has a pistol grip type handle and an off-and-on toggle switch in the handle. The glass container for holding the spray material is easily dismounted for filling and cleaning. Other features include a Universal AC-DC motor that is encased in an aluminum housing and insulated with spun glass. Sprayer is supplied with 10 feet of heavy-duty, waterproof rubber covered cable.

### DCAT Luncheon June 23

A talk on socialized medicine by John W. McPherrin, editor of *American Druggist*, based on first hand observations made during his current trip to England, will be the feature of the spring luncheon meeting of the Drug, Chemical & Allied Trades Section of the New York Board of Trade, Thursday, June 23, Hotel Astor, New York. Robert B. Magnus, Magnus, Mabee & Reynard, Inc., New York, will preside.

Below: The new "Mistmaster Model 50" electric sprayer, recently announced by Sprayer Corp. of America, Evanston, Ill.

At right: newly adopted ceramic color labels for both front and back panels of glass containers used by Sani-Wax Co., Dallas, for its polish and cleaner.



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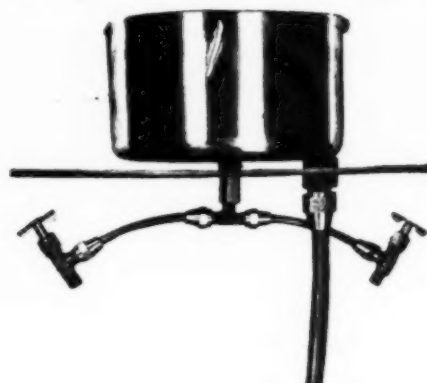
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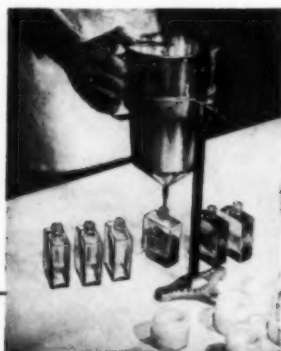
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### R. W. Bush of D&O Dies

Ralph W. Bush, 76, who was actively associated with Dodge & Olcott, Inc., New York, for 59 years until his retirement about a year and a half ago, died at his home in North Hackensack, N. J., April 21. He started to work for the company at the age of 15 as an errand boy during a summer vacation, and eventually showed such aptitude in judging the merits of essential oils that he was given charge of a whole floor in the company's old building on William St.

He was appointed general manager in March, 1926. In 1938, he was named vice-president and remained in that post for two years. Thereafter he became secretary until his retirement in Sept., 1947. Mr. Bush served for many years with the late Dr. Francis D. Dodge on the scientific committee of the Essential Oil Assn., which worked with the committee on revision of the U.S.P. He is survived by his widow, two sons, Willis R. and Edgar, and two sisters.

### Hooker Advances George

William F. George, New York district sales supervisor since 1942, was recently named New York district sales manager for Hooker Electrochemical Co., Niagara Falls, N. Y. He will continue to make his headquarters at the New York office, 60 E. 42nd St.

### EPCA Officials Meet

Pending Congressional action on the approval of new insecticides was discussed during a meeting of the executive committee of the Association of Economic Poisons Control Officials and industry associations recently. The meeting took place in the South Agriculture Building, Washington, D. C., Apr. 27. H. W. Hamilton of H. W. Hamilton Co., New York, secretary of the National Association of Insecticide & Disinfectant Manufacturers and John Connor, NAIDM counsel, attended the meeting on behalf of the association.

Representatives of industry at the meeting urged uniformity of State laws and regulations; abolition or reduction of registration fees; acceptance of Federal Registration and approved

New "Ozium" air freshener packed in metal cylinders 4¾ inches long x 1¼ inches in diameter is fortified with propylene glycol and triethylene glycol. The new item is made by Woodlets, Inc., Portland, Pa. A lever on the dispenser releases a fine, mistlike spray.



advisory service on acceptable labeling.

In the event of Congressional action controlling new insecticidal materials by certification before sale, it was recommended at the meeting that the power be vested in the Department of Agriculture.

### Amend Insecticide Act

An amendment to the Federal Insecticide, Fungicide and Rodenticide Act was recently issued which exempts from the requirement that a permit be obtained for experimental shipments of those products which are classified as new drugs and are shipped in accordance with provisions of Section 505 (e) of the Federal Food, Drug and Cosmetic Act.

### State Insecticide Bills

A summary of state legislation covering insecticides issued recently by the National Association of Insecticide & Disinfectant Manufacturers, Inc., New York, reported the California's assembly bill 919, which contains proposed amendments to that state's Agricultural Code covering economic poisons has passed the House with amendments and has been referred to the Senate Agriculture Committee. The bill now conforms more closely to the Federal Act on ingredient statements and also by including adjuvants which are sold in a package separate from that of the economic poison in which they are to be used.

The Iowa house bill 296, Economic Poisons Bill, having passed the House, died in Senate Sifting Committee on adjournment.

The New Jersey Assembly

Economic Poisons Bill, 293, died in Miscellaneous Committee on adjournment. However, a special session is expected to be called in that state during May.

Oregon Senate Bill 376, which amended the 1943 law on Economic Poisons is now law.

Michigan Bill 362, following a number of suggested changes relating to ingredient statement, fees, and brand names, passed the House and has been referred to the Senate Committee on Agriculture.

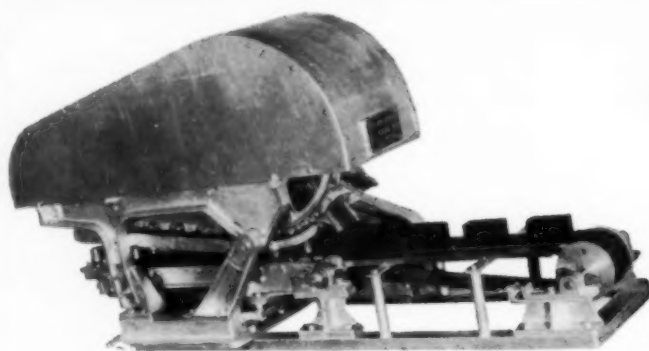
### Exemption Deadline Near

The blanket exemption applying to insecticides and fungicides shipped prior to June 25, 1948, under terms of the Federal Insecticide, Fungicide and Rodenticide Act, expires June 25, 1949. The Department of Agriculture has no authority to extend it beyond that date, but has offered to discuss with manufacturers changes in labeling which may be made to bring the product in conformity with the law.

The exemption applying to rodenticides and herbicides expired Dec. 25, 1947.

### Chlordane Bulletins

Two bulletins dealing with the use of chlordane in insect control were issued recently by Julius Hyman & Co., Denver, Colo. The first is revised technical supplement No. 203C and deals with "Control of Livestock Parasites"; the other bears the title, "Direct Control of Grasshoppers with Chlordane."



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## Davis Urges Cooperative Research

**I**NSECTICIDE manufacturers could benefit greatly from closer cooperation with entomological research work being done at state agricultural experiment stations, Dr. J. J. Davis, professor of entomology at Purdue University, stated recently. His talk was part of a symposium on "Cooperation" during the fourth annual conference of the North Central States branch of the American Association of Economic Entomologists, held at the Schroeder Hotel, Milwaukee. As a result of close working arrangements between industry and agricultural station scientists new and profitable items might be developed. There is cooperation through fellowships and scholarships, Dr. Davis conceded, but added that there is a need for more teamwork of this kind. The fellowships should be planned for more than one year, and so far as possible, they should not be influenced by the sponsor. At the same time, he said, industry itself should also conduct research in its own private laboratories.

Industry's anxiety to secure early results from research projects is one drawback to close cooperation, according to Dr. Davis. Everyone, he said, wants to be first with the new products and industry could aid the scientists by delaying their introduction to the public until full and complete results have been made available from sound, fundamental research.

One area in which industry could cooperate to advantage, Dr. Davis stated, is that covering toxicology of the new insecticides. Both entomologists and industry, he said, have left too much to the regulatory agencies to say what shall or shall not be used.

The equipment industry, Dr. Davis asserted, has not kept pace with chemical developments in the insecticide field. Makers of sprayers and related equipment could afford to cooperate more closely with entomologists and engineers to fill needs as new developments are released, he stated.

One of the most important ways in which industry could cooperate with the entomologists, Dr. Davis

went on, is in providing funds for fundamental research without regard to products or expectation of getting any immediate return from their contributions.

Professional and trade organizations allied with entomology, he said, could encourage and support such research. He cited the National Pest Control Association as one such group which is doing much in this direction. Projects which are being sponsored by the NPCA at the Purdue station, he said, "have no strings tied to them and we do as we see fit."

Community fly control campaigns will be conducted throughout the middle west again this summer, it was indicated in a roundup of reports at the Milwaukee conference on what the extension entomologists have been doing in this field.

About 100,000 Illinois farmers conducted fly control projects on their farms last year and 91,000 expressed satisfaction with results, H. S. Petty of the Illinois station at Urbana, reported. The program is to be repeated this year, he said, the first steps having been taken in a series of regional planning conferences started in April.

In Iowa last year 85 to 90 per cent of the farmers and 60 per cent of the urban areas conducted fly control projects, Dr. Harold Gunderson of the Iowa station at Ames, reported. He expressed the belief that about the same number of communities will repeat their anti-fly drives this summer. Minnesota, Missouri, Wisconsin and other states also made similar forecasts of activity against the flies this year.

Relating his experiences during municipal fly campaigns, an industry spokesman, C. F. Gerlach, of Michigan Chemical Co., St. Louis, Mich., remarked that "most people think a fly is a fly," and make no distinction between species.

"We have found a lot of people using a spray that is O.K. against houseflies," he said, "when they should have been using one more adapted to control of horseflies, blue bottle flies and the others."

"Help these communities all

you can," Gerlach advised the entomologists. "If they go it alone, they will spend a lot of money and do a poor job."

Further discussion of the shortcomings of fly campaigns brought out general agreement on the charge that where results were unsatisfactory the trouble was due to a disregard of the need for a thorough sanitation cleanup of the town.

"Results in Iowa in 1947, were so outstanding," said Dr. Gunderson of Ames, "that people got the idea it was just a matter of squirting DDT. Last year, where towns repeated their campaigns, little attention was paid to sanitation. As a result breeding places for flies were abundant and this, coupled with favorable weather, sent the fly population soaring."

"We visited many towns where it was felt that the 1948 campaign was a failure, and were able to point out where they had failed. It was not the DDT but the neglect of a sanitation follow-up in these towns. DDT did as good a job as it was able."

### Lueders Fetes Leuchs

On April 27th the officers of George Lueders & Co. tendered a special luncheon to Mr. Adolph Leuchs on the occasion of his fiftieth anniversary with the company. The president, Mr. F. J. Lueders, presented the usual service pin to Mr. Leuchs. This pin contains two small diamonds, distinguishing it from the twenty-five-year pin which, up to the present time, has been presented to forty-two employees of the company.

While the luncheon was in progress, a television set, gift of the officers and employees, was being installed in the home of Mr. Leuchs. The luncheon was held at the Ridgewood Country Club and among those present were Mr. F. Weber, vice president, with the company fifty-six years, Mr. Harry W. Heister who will celebrate his half century mark in October and Mr. Gustav Miller who will round out his fifty years in January, 1950. Another member topping the fifty year mark is Mr. Edward V. Killeen, fifty-eight years with the company.



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## EXCELLENT UNION EQUIPMENT



### AVAILABLE FOR IMMEDIATE DELIVERY

Mikro 4th-24", 1-SH & Bantam Pulverizers, Jay Bee Mills, U1, Schutz-O'Neill, Williams, Stedman & Rietz Mills. Stokes, Baker-Perkins and Readco, Day, Hottman Mixers, Laboratory up to 3500 gallons with and without Jackets. Day & Robinson 100-4000 lbs. Dry Powder Mixers & Sifters. AMF Soap Amalgamators, 50 to 200 gallon capacities. Houchin Aiken & National Equipment 3 to 5 Roll Soap Mills. Houchin Aiken 8 3/4", monel Soap Plodder, motor driven. Huhn, Wolfe and Ellis Steam and Gas-Fired Dryers. Pony M Labelrite, Ermold and World Semi-Automatic and Fully Automatic Rotary and Straightaway Labelers. Pneumatic Scale & Resina Single Head Automatic Capper. Standard Knapp No. 429 and J. L. Ferguson Carton Sealers. Colton 17TF Auto Tube Paste Filler. Sweetland, Vallex, Sperry, Shriver & Johnson Filter Presses. Package Machinery FA, FAQ, FA2, Automatic Wrappers. Pneumatic Scale Co., Automatic Cartoning Outfit. R. A. Jones Model E Auto. Soap Press, 1/2 to 4 1/2 oz. cakes.

Many Other Items of Interest in Stock  
Attractively Priced  
Tell Us Your Requirements

**Union STANDARD EQUIPMENT CO.**  
318-322 LAFAYETTE ST., N. Y. 12, N. Y.



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